LIBRARY
NOV 1946
UNIVERSITY OF TORONTO

R
11
S68
v. 8
no. 4

Biological & Medical Serials

VOLUME VIII APRIL, 1915 NUMBER 4

Southern Medical Journal

Journal of The Southern Medical Association

THE TRUTH AND THE TRUTH ONLY ON EVERY PAGE FROM COVER TO COVER

TABLE OF CONTENTS

SPECIAL ARTICLE.

Work of the Council on Pharmacy and Chemistry: Its Effect on Medical Progress. Geo. H. Simmons, Chicago, Ill. 259

MEDICINE.

The Heart in the Common Types of Liver Diseases. Alexander G. Brown, Richmond, Va. 266

Discussed by J. Garnett Nelson, Richmond, Va.; James V. Freeman, Jacksonville, Fla.; E. C. Thrash, Atlanta, Ga.

Some Reasons Why Our Southern Pediatrists Should Organize. Clarence A. Rhodes, Atlanta, Ga. 272

Discussed by McGuire Newton, Richmond, Va.; I. W. Faison, Charlotte, N. C.; C. V. Stephenson, Centreville, Tenn.; Lewis W. Elias, Asheville, N. C.

AUTHORS' ABSTRACTS: Periodic Examination of Supposedly Well Persons, Eugene L. Fisk, New York, N. Y.—**Hematuria and Its Possible Significance,** Ferdinand C. Walsh, San Antonio, Texas.—**Institutional Mortality of the New-Born. A Report of Ten Thousand Consecutive Births at the Sloane Hospital for Women, New York,** L. Emmett Holt and Ellen C. Babbitt, New York.—**Posture of the Human Body: Its Relation to Health and Efficiency,** Fred G. Hodgson, Atlanta, Ga.—**Persistent Glycosuria a Symptom of Functional Liver Failure from Focal Infection,** Ernest F. King, Washington, D. C.—**The Physician and the Drug Habit,** Chas. W. Fisk, Kingfisher, Okla.—**The Importance Attached to All Hysterical Manifestations,** G. H. Moody, San Antonio, Texas.—**The Effect of Direct Rays of the Sun on Experimental Tuberculosis,** David C. Twichell, Albuquerque, New Mexico.—**Report of Human Case of Glanders,** Leon Ashley Peek, West Palm Beach, Fla. 276

TROPICAL DISEASES AND PUBLIC HEALTH.

The Symptomatology, Etiology, Pathology and Treatment of Pellagra. J. Clarence Johnson, Atlanta, Ga. 279

The Duties and Status of a Health Officer. M. M. Carrick, Dallas, Tex. 289

AUTHORS' ABSTRACTS: Spirochaetae and Fusiform Bacilli in Various Lesions in the Philippines, Weston P. Chamberlain, Plattsburg Barracks, N. Y.—**Infection with the Cercomona Hominis,** Elliott C. Prentiss, El Paso, Tex.—**Some Interesting Features Concerning the Study of Pellagra,** John L. Jelks, Memphis, Tenn.—**Impounded Water,** H. R. Carter, Washington, D. C.—**The Influence of Tropical Residence on the Blood,** Weston P. Chamberlain, Plattsburg Barracks, N. Y.—**The County Health Officer: His Difficulties and Obligations,** Oscar Dowling, Shreveport, La. 291

SURGERY, GYNECOLOGY, OBSTETRICS, AND GENITO-URINARY DISEASES.

The Acute Surgical Abdomen. Floyd W. McRae, Atlanta, Ga. 293

The Technique of Intestinal Suturing. J. Shelton Horsley, Richmond, Va. 296

The Importance of the Sigmoid Adhesion. Hubert A. Royster, Raleigh, N. C. 299

Choice of Operation in Intestinal Obstruction. Joseph Graham, Durham, N. C. 301

Abdominal Surgery Papers discussed by Stephen H. Watts, Charlottesville, Va.; S. S. Gale, Roanoke, Va.; W. W. Crawford, Hattiesburg, Miss.; Edmund J. Horgan, Fairfax, Va.; G. C. Rodgers, Elkins, W. Va.; Chas. H. Harris, Fort Worth, Tex.; Eugene B. Glenn, Asheville, N. C.

(Concluded on first advertising page)

"Chicago Laboratory, 25 E. Washington St., Chicago, Ill., see page XVI."

City View Sanitarium

(ESTABLISHED 1907)

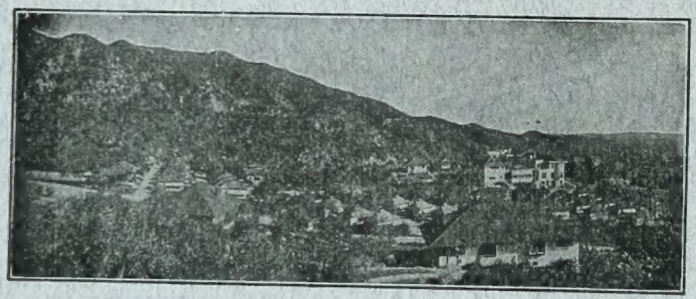
JOHN W. STEVENS, M.D., Physician-in-charge
Telephone Main 2928
Rural Route No. 1 Nashville, Tennessee

For the Treatment of MENTAL and NERVOUS DISEASES and the ADDICTIONS. New fifty Room Department completed January, 1915. Now have two new buildings. One for each sex. A thoroughly modern and fully equipped private hospital, operating under state license. Large commodious buildings offering accommodations to meet the desires of the most exacting. Situated out of town in a quiet, secluded place. Large shady grounds. Specially trained nurses. Two resident physicians. Capacity 65. References: Medical Profession of Nashville.

THE POTTENGER SANATORIUM

MONROVIA, CALIFORNIA

FOR DISEASES OF THE LUNGS AND THROAT.



A thoroughly equipped institution for the scientific treatment of tuberculosis. High class accommodations. Ideal all-year-round climate. Surrounded by orange groves and beautiful mountain scenery. Forty-five minutes from Los Angeles. F. M. Pottenger, A.M., M.D., LL.D., Medical Director. J. E. Pottenger, A.B., M.D., Assistant Medical Director and Chief of Laboratory. George H. Evans, M.D., San Francisco, Medical Consultant. For particulars address: **POTTENGER SANATORIUM, Monrovia, Cal.** Los Angeles office: 1100-1101 Title Ins. Bldg., Fifth and Spring Streets.

CURRAN POPE A. THRUSTON POPE

A MODERN up-to-date private infirmary equipped with steam heat, electric light, electric fans, modern plumbing and new furnishings. Solicits all chronic cases, functional and organic nervous diseases, diseases of the stomach and intestines, rheumatism, gout and uric acid troubles, drug habits and non-surgical diseases of men and women. No insanity or infectious cases treated. Bed-ridden cases not received without previous arrangement.

Hydrotherapy, Mechanical Massage, Static, Galvanic, Faradic, High Frequency, Arc Light and X-Ray Treatments given by competent Physicians and Nurses under the immediate supervision of the Medical Superintendent. Special laboratory facilities for diagnosis by urine, blood, sputum, gastric juice and X-Ray. Recreation hall with pool and billiards for free use of patients.

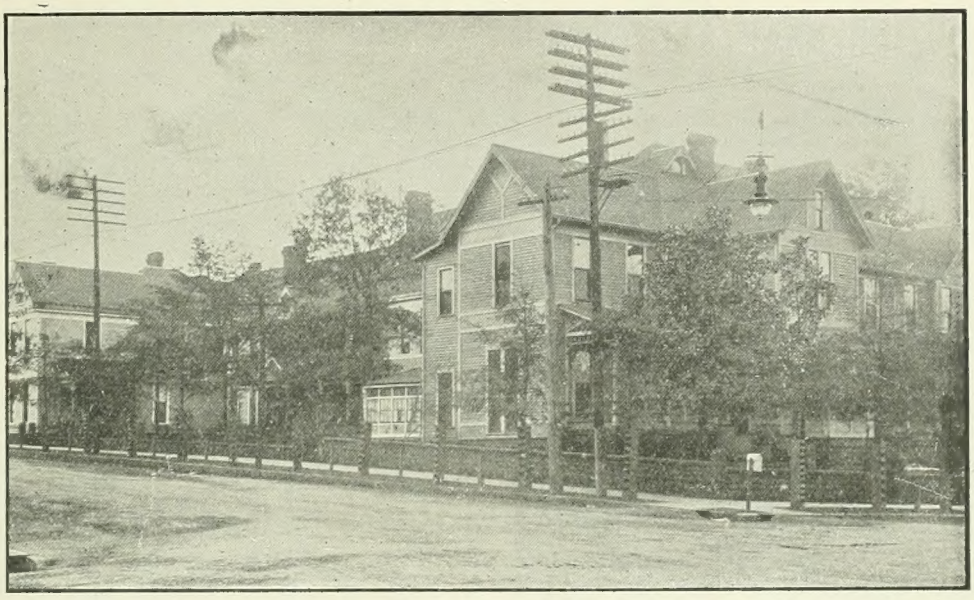
Rates $25 per week, including treatment, board, medical attention and general nursing. Send for large illustrated catalog. The Sanatorium is supplied daily, from the Pope Farm, with vegetables, poultry and eggs; also milk, cream, butter and buttermilk from its herd of registered Jerseys.

THE POPE SANATORIUM

INCORPORATED
Established 1890

Long Distance Phones
CUMB. M. 2122 HOME 2122

115 West Chestnut Street
LOUISVILLE, KENTUCKY



DAVIS INFIRMARY For Diseases of Women and Surgical Cases and Hospital Training School for Nurses

The buildings are well constructed for surgical work. Competent Staff of Consultants and Assistants.

J. D. S. DAVIS, M.D., Birmingham, Alabama.

TABLE OF CONTENTS—*Concluded*

AUTHORS' ABSTRACTS: Crossen's Method of Precluding the Possibility of Unintentionally Leaving Gauze in the Abdominal Cavity, Lindsay Peters, Columbia, S. C.—**The Operative Treatment of Fractures,** A. R. Shands, Washington, D. C.—**My Experience with the Matas Operation of Endoaneurysmorrhaphy,** Hermann B. Gessner, New Orleans, La.—**Facial Paralysis Occurring in the Treatment of Syphilis,** J. L. Kirby-Smith, Jacksonville, Fla.—**Spinal Anesthesia in Genito-Urinary Surgery,** A. L. Fowler, Atlanta, Ga.—**Shock, Anoci-Association and Anesthesia,** A. M. Fauntleroy, Washington, D. C. 307

RAILWAY SURGERY.

Railway Sanitation. Clarence H. Vaught, Richmond, Ky. 309

Fractures, How Best to Get Union. Stephen Harnsberger, Catlett, Va. 314

Discussed by Joseph Graham, Durham, N. C.; Southgate Leigh, Norfolk, Va.; H. P. Linsz, Wheeling, W. Va.

EYE, EAR, NOSE AND THROAT.

Some Recent Surgery of Cranial Nerves for the Relief of Headache and Other Neuroses. H. H. Martin, Savannah, Ga. 317

Discussed by W. P. Reaves, Greensboro, N. C.; J. W. Jervey, Greenville, S. C.; J. B. Greene, Asheville, N. C.; J. A. Stucky, Lexington, Ky.

AUTHORS' ABSTRACTS: Gunshot Wound of Cavernous Plexus: Report of a Case with Results, E. H. Cary, Dallas, Tex.—**Report of a Case of Latent Mastoiditis with Sinus Thrombosis,** Wm. H. Huntington, Washington, D. C.—**The Tonsil in Its Relation to Tuberculosis, Rheumatism, and Endocarditis,** B. F. Stevens, El Paso, Tex.—**The Sluder Tonsil Operation,** H. H. Martin, Savannah, Ga.—**Trachoma,** M. Victor Safford, U. S. Public Health Service.—**Non-Suppurative Otitis Media,** J. H. Barnes, Enid, Okla. 326

EDITORIALS 328

BOOK REVIEWS 337

SOUTHERN MEDICAL NEWS 337

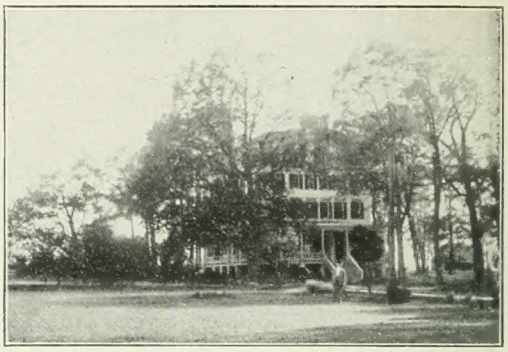
Chestnut Lodge

Rockville, Maryland

Near Washington, D. C. Baltimore & Ohio Railroad and Electric Line from Washington

This Sanitarium under experienced management offers superior advantages for the treatment of patients suffering from Nervous and mild Mental Diseases, and for elderly persons needing skilled care and nursing: combining the equipment of a modern Phychopathic Hospital with the appointments of a refined home. The Hydrotherapy Department is complete in every detail including the Nauheim Baths for Arteriosclerosis, Heart and Kidney Diseases.

DR. E. L. BULLARD, Physician-in-Charge



"In the Pines."

Dr. Morse's Sanatorium for Tuberculosis

Hendersonville, North Carolina

Twenty miles South of Asheville, on the main line of the Southern Railway between Cincinnati and Charleston. Probably the finest all-year-round climate in America. Large number of days of sunshine. Altitude 2300 feet above sea level. Stimulating air. Mountain scenery of great beauty. In the very centre of the **"LAND OF THE SKY."** The sanatorium is especially adapted to the treatment of the tuberculous. Private sleeping-out piazzas for every patient. All modern conveniences and good service. Every health-giving condition is supplied. Eighteen acres of natural parkland surround the sanatorium—a scientific institution amid ideal conditions. Physician lives in the sanatorium. Rates $17.50 to $30.00 per week. Booklet on application.

DR. MORSE'S SANATORIUM, Box 395, Hendersonville, N. C.

The HYGEIA SANITARIUM

Exclusively for the Treatment of Drug Addiction and Alcoholism

Dr. Wm K. McLaughlin, *Medical Supt.*

2517 Michigan Avenue, Chicago, Ill.

To the Medical Profession

THE HYGEIA SANITARIUM, perfectly equipped for the treatment of Drug Addiction and Alcoholism, is open to physicians, referring cases, that they may observe every detail of the treatment.

We use the Lambert-Towns method a recognized scientific treatment, which obliterates the craving. Patients pass through the treatment with but slight discomfort; when dismissed they are referred to their family physician for further observation.

THE MILWAUKEE SANITARIUM

Located at Wauwatosa (a suburb of Milwaukee) on C. M. & St. P. Ry., 2½ hours from Chicago, 15 minutes from Milwaukee, 5 minutes from all cars. Two lines street cars. Complete facilities and equipment as heretofore announced. ¶New Psychopathic Hospital: continuous baths, fireproof building, separate grounds. ¶New West House: rooms en suite with private baths. ¶New Gymnasium and Recreation Building; physical culture, new "Zander" machines, shower baths. ¶Modern Bath House: hydrotherapy, electrotherapy, mechanotherapy. ¶Thirty acres beautiful hill, forest and lawn. Five houses. Individualized treatment.

ENTRANCE WEST HOUSE OFFICE AND BATH HOUSE PSYCHOPATHIC HOSPITAL

RICHARD DEWEY, A.M. M.D. EUGENE CHANEY, M.D. HERBERT W. POWERS, M.D.

CHICAGO OFFICE; Marshall Field Annex Building, 25 East Washington St. Wednesdays 1 to 3, except July and August.

WAUWATOSA, WISCONSIN

for Mental and Nervous Diseases

ESTABLISHED IN 1884

HIGHLAND HOSPITAL
ASHEVILLE, N. C.

(SUCCEEDING DOCTOR CARROLL'S SANITARIUM)

A modern, thoroughly equipped institution for the care of selected nervous, mental and habit cases, employing all rational methods of treatment, emphasizing climate, diet, water, rest, and giving particular attention to out-of-door occupation treatment or work cure. No tubercular patients accepted under any conditions.

For booklet address

Robt. S. Carroll, M. D., Medical Director Highland Hospital, Asheville, N. C.

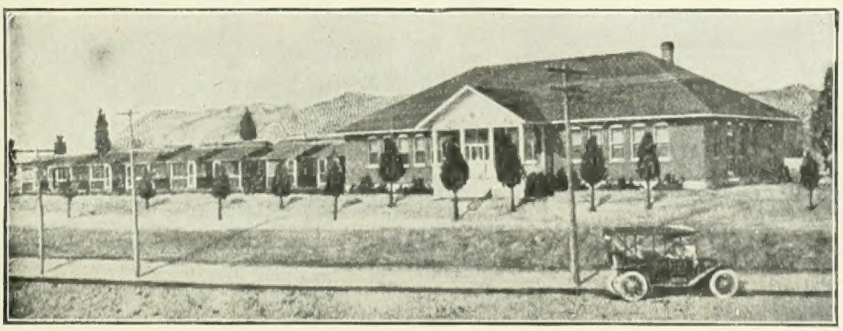
DR. BRAWNER'S SANITARIUM, Atlanta, Ga.

FOR NERVOUS AND MENTAL DISEASES, GENERAL INVALIDISM AND DRUG ADDICTIONS.

Woman's Building. A Cottage. Main Building. Playing Croquet.

The sanitarium is located on the Marietta trolley line, 10 miles from center of city, near a beautiful suburb, Smyrna. Grounds consist of 80 acres. Buildings are steam heated, electrically lighted, and many rooms have private baths. Patients have many recreations such as tennis, croquet, baseball and automobiling. Reference: The Medical Profession of Atlanta. Address DR. JAS. N. BRAWNER, 701-2 Grant Bldg., Atlanta, Ga.

The Cipes Sanatorium for Pulmonary and Laryngeal Tuberculosis, Albuquerque, New Mexico



A thoroughly equipped institution for the scientific treatment of tuberculosis. Bungalows with individual screened porches, hot and cold running water bath and toilet in each cottage, electric lights, call bells, etc. Ideal location. Rates $20.00 TO $25.00 per week. No extras. Write for booklet.

Joseph S. Cipes, M.D.
Medical Director.

LYNNHURST SANITARIUM

FOR NERVOUS DISEASES, MILD MENTAL DISORDERS, ALCOHOL AND DRUG ADDICTIONS

A rest home for nervous invalids and convalescents requiring environments differing from home surroundings. Modern and approved methods for giving Hydrotherapy, Electrotherapy, Massage and Rest Treatment. *An improved treatment for Opium-Morphine addictions, which prevents withdrawal pains and suffering.* Experienced nurses. Mild Climate. Artesian, chalybeat and soft waters.

S. T. RUCKER, M. D.,
MEDICAL SUPERINTENDENT

MEMPHIS, - - - - - - - - - - TENNESSEE.

The Jackson Health Resort

On the Delaware, Lackawanna & Western Railway

Dansville, New York

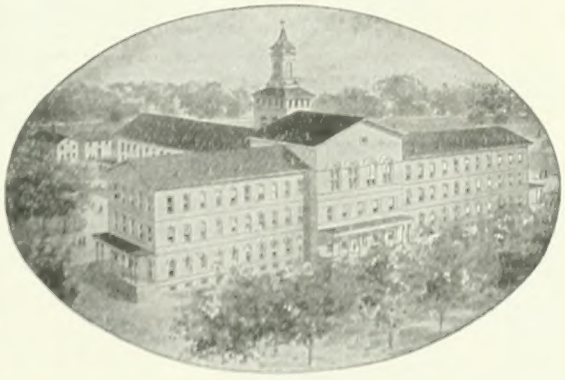
The growth of 56 years of experience in Caring for Invalids

Spend your **Summer in the North** at this leading health resort.

For seekers after Health and Rest. A real HEALTH resort for those who are SICK, and a real REST resort for those who are TIRED OUT.

Situated amid delightful picturesque scenery. Fireproof main building, equipped with every appliance for sanitation, comfort and treatment.

Physicians will make no mistake in directing patients to **THE JACKSON**. . . . . Write for literature.



OXFORD RETREAT

OXFORD, OHIO

Nervous and Mental Diseases
Alcohol and Drug Addictions
FOR MEN AND WOMEN

96 Acres Lawn and Forest. Buildings Modern and First-Class in all Appointments. Thoroughly Equipped. Of Easy Access—39 Miles from Cincinnati, on C. H. & D. R. R. 10 Trains Daily.

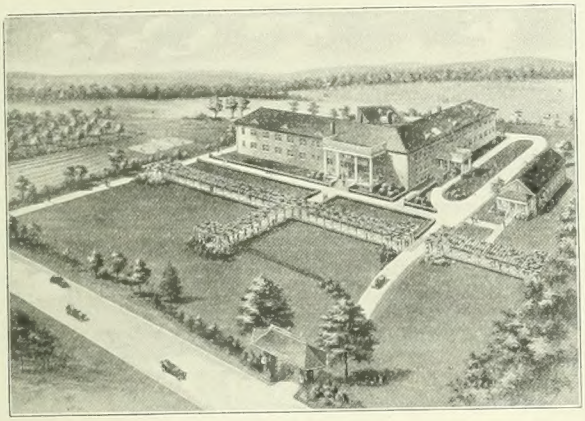
THE PINES

An Annex for Nervous Women
Write for Descriptive Circular
R. HARVEY COOK, M.D., Physician-in-Chief

THE CHESTON KING SANITARIUM

SUCCESSOR TO HOWELL PARK SANITARIUM

PEACHTREE ROAD, ATLANTA, GA. R. F. D. No. 4.



For the treatment of

NERVOUS AND MENTAL DISEASES
ALCOHOL AND DRUG ADDICTIONS

The South's most beautiful Sanitarium, completed August, 1914, on acreage of Peachtree Road, twenty minutes drive from Atlanta, and situated between The Capital City Country Club and Greater Oglethorpe University. The buildings are of concrete, pressed brick and tile roof, all rooms are outside, with a purpose single to light and ventilation. Complete system of baths. The water supply is from an artesian well.

There is installed in all the buildings vapor heat and the indirect lighting system. All of the latest approved treatments are used. Patients admitted to our Sanitarium, can have all the rest and exercise indicated and yet will not come in contact with any objectionable case. A physician is in constant attendance.

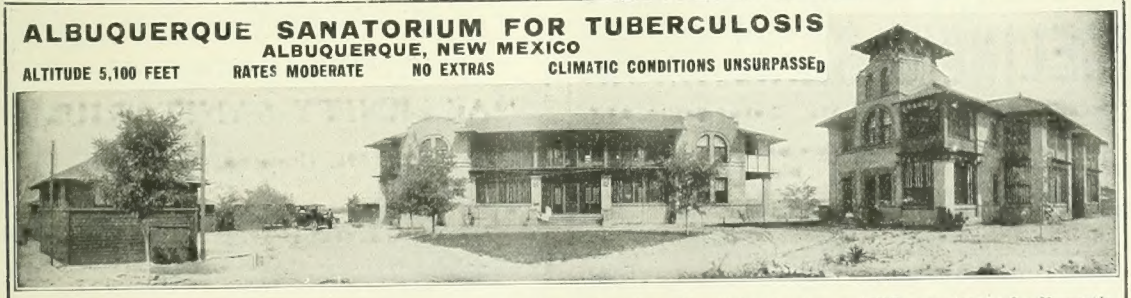
Mail Address: DR. CHESTON KING,
DR. LEWIS M. GAINES, Medical Directors.
ATLANTA, GA., R. F. D. No. 4, or
1023 Empire Bldg.

DR. W. A. GARDNER,
Asst. Med. Director.

ALBUQUERQUE SANATORIUM FOR TUBERCULOSIS

ALBUQUERQUE, NEW MEXICO

ALTITUDE 5,100 FEET **RATES MODERATE** **NO EXTRAS** **CLIMATIC CONDITIONS UNSURPASSED**



A private sanatorium where the closest personal attention is given each patient. Complete laboratory and X-Ray equipment for diagnostic purposes. Compression of the lung and sun-bath treatment after the method of Rollier. Steam heat, hot and cold water, electric lights, call bells, local and long distance telephones and private porches for each room. Bungalows if desired.

Situated but 1½ miles from Albuquerque, the largest city and best market of New Mexico. Permits of excellent meals and service at a moderate price. **Write for Booklet B.**

A. G. SHORTLE, M. D., L. S. PETERS, M. D., Associate Physicians.

Kenilworth Sanitarium

(Established 1905)

Kenilworth, Illinois

(C. & N. W. Railway. Six miles north of Chicago)

Built and equipped for the treatment of nervous and mental diseases. Approved diagnostic and therapeutic methods. Special system of ventilation. Rooms impervious to noise. Elegant appointments. Bath rooms en suite, steam heating, electric lighting, electric elevator.

RESIDENT MEDICAL STAFF:

Kathryn T. Driscoll, M.D., Assistant Physician — Sherman Brown, M.D., Medical Superintendent — Sanger Brown, M.D., Chief-of-Staff

Chicago Office 59 East Madison Street.

Telephone Randolph 5794. Hours 11 to 1, by appointment only.

All correspondence should be addressed to

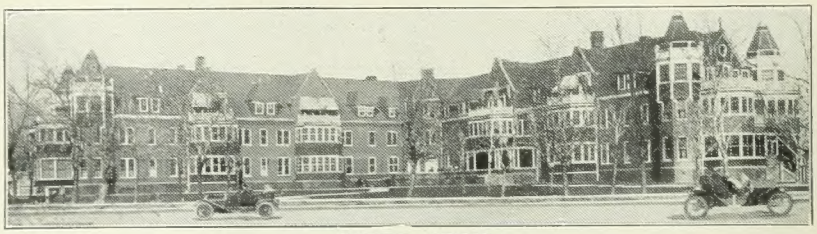
Kenilworth Sanitarium. - Kenilworth, Illinois

GLOCKNER SANATORIUM

NORTH TEJON
COLORADO SPRINGS, COL.

CLIMATE
CARE
COMFORTS

For
Pulmonary
Cases



FOUNDED IN 1889

SOUTH FRONT

A $300,000 Sanatorium with surgical annex, modern buildings and equipment. Located amid scenic grandeurs. For 25 years successfully engaged in caring for the health-seeker. Rates $15 to $35 per week. Write for catalog, mentioning this Journal.

WAUKESHA SPRINGS SANITARIUM

FOR THE CARE AND TREATMENT OF

NERVOUS DISEASES

BUILDING ABSOLUTELY FIREPROOF

BYRON M. CAPLES, M.D., Supt.
WAUKESHA, WIS.

SIELING'S SANITARIUM

Pine Crest, Phone, Caton 334 Catonsville, Md.

HENRY B. KOLB, M.D., Medical Director, Phone, South 80
For circular and rates, address Supt., Miss Anna A. Sieling, R.N.
A well equipped Sanitarium for the treatment of **Mental** and **Nervous Diseases, Drug** and **Alcohol Habits,** etc.

Private Maternity Home

For deserving unfortunate, unmarried girls, recommended by their physician. Quiet, homelike, exclusive, protective, strictly ethical. Good homes for infants provided if desired. Rates reasonable. Correspondence and co-operation solicited room physicians.

Address: ROSE MASSOTH, R. N. Supt.

ARGO LYING-IN HOSPITAL

ARGO, ILLINOIS, Cook Co. Phone: Summit 178 M.

PEARSON HOME

FOR THE TREATMENT OF

Drug Addictions

Avoidance of shock and suffering enables us to treat safely and successfully those extreme cases of morphinism that from long continued heavy doses are in poor physical condition.

Hillsdale, Baltimore County, Maryland.

SOUTH HOUSTON MATERNITY SANITARIUM

Box 596, Houston, Texas.

Twenty-five minutes ride from Houston on the Interurban. Take car at Texas and Main streets. Long distance telephone in Sanitarium.

TO THE MEDICAL PROFESSION:

I desire to call attention to my private Maternity Home for patients before and during confinement.

This institution is home-like in every particular, screened throughout; hot and cold baths and all other customary conveniences.

I will accept the guarantee of the regular medical profession and will ask no questions of patients, treating such with the utmost courtesy at all times.

I am prepared to secure the adoption of infants into first-class homes, as I have applicants on hand from the best people at all times.

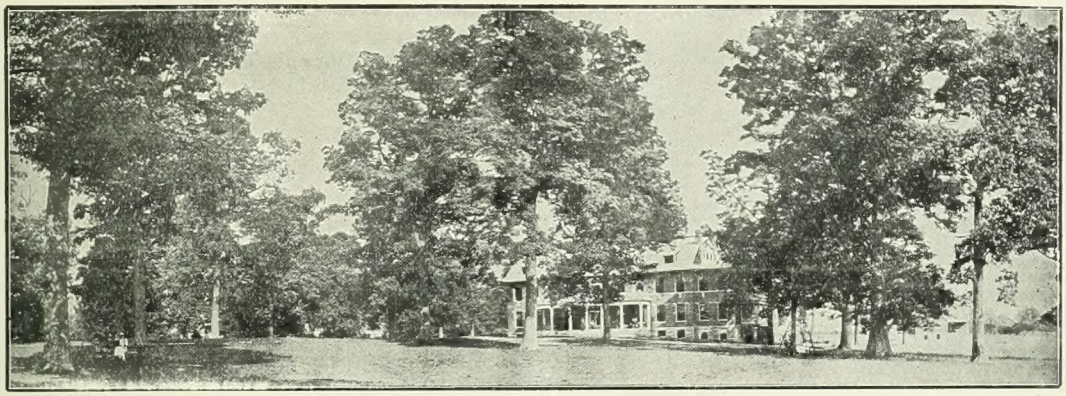
I am in a position to secure the best medical service in the city, and have in constant attendance the necessary number of trained nurses. Patients are at liberty to use the physician of their choice, provided such physician is an ethical, legal practitioner.

Interurban car line passes within a block of the Home. I will attend to baggage, etc. Full directions, and any further information by mail.

MRS. J. C. McDEARMON, Matron.

HIGH OAKS

Dr. Sprague's Sanatorium



NERVOUS AND MENTAL DISEASES, LIQUOR AND DRUG ADDICTIONS TREATED

Constant medical oversight and skilled nursing. Hydrotherapeutic department equipped with Turkish, shower, needle, sitz and other baths, liver spray, and Scotch and perineal douches, given by prescription at definite temperatures and pressures. Various forms of vibration, vibratory and manual massage, galvanic and faradic electricity, laboratory methods and facilities for sero-diagnosis and treatment. Various in and outdoor games. Resident musicians. New buildings. Eighty-one acres. Beautifully wooded grounds. In arranging for admission of patients physicians may use long distance telephone at our expense. Address

GEO. P. SPRAGUE, M. D., Lexington, Ky.

ARLINGTON HEIGHTS SANITARIUM

(Incorporated Under the Laws of Texas.)

For Nervous Diseases, Selected Cases of Mental Diseases, Drug and Alcohol Addictions.

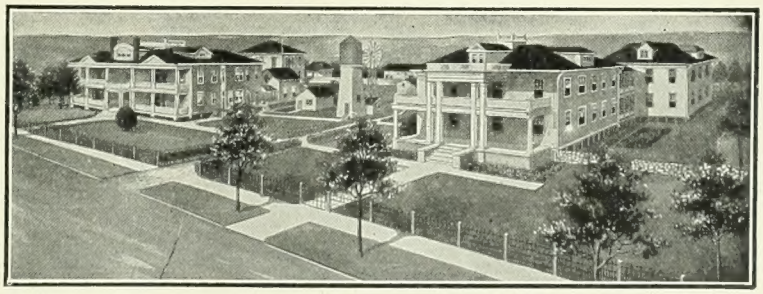
P. O. Box 978 Ft. Worth, Tex.

WILMER L. ALLISON, M. D., Supt. and Resident Physician. For several years first Ass't. Supt. of Asylum at San Antonio, Tex.

JAMES D. BOZEMAN, M. D., Resident Physician.

BRUCE ALLISON, M. D., Resident Physician.

JOHN S. TURNER, M. D., Consulting Physician. Late Supt. of Terrell Asylum.



The Watauga Sanitarium, Ridgetop, Tenn.

In the Foothills of Tennessee's Beautiful and Picturesque Mountains

STAFF

DR. WILLIAM LITTERER, Bacteriologist-in-Chief.
DR. W. A. BRYAN, Surgeon-in-Chief.
DR. J. M. KING, Dermatologist.
DR. G. C. SAVAGE, Eye, Ear, Nose and Throat.
DR. O. N. BRYAN, Diagnostician.
DR. CHAS. A. ROBERTSON, Medical Director.
DR. R. BOYD BOGLE, X-Ray Diagnosis.

For Tuberculosis in All Forms

Location ideal, elevation about 1,000 feet, buildings modern, hot and cold running water, lighted with gas, perfect sewerage, excellent water supply. The Sanitarium operates its own dairy and truck farms. Equipment includes our own steam laundry, and is in every way up to now.

Tuberculins and Vaccines Administered

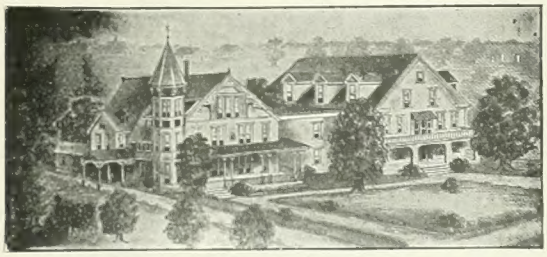
in suitable cases. Heliotherapy modified, after the method of Rollier. Rates very reasonable. Address

THE WATAUGA SANITARIUM, Ridgetop, Tenn.

or Mr. James A. Yowell, Mr. Joe E. Yowell, Sec.-Treas., 623 Stahlman Bldg., Nashville, Tenn.

DRS. PETTEY & WALLACE'S SANITARIUM

958 S. Fifth Street MEMPHIS, TENN.



FOR THE TREATMENT OF

Alcohol and Drug Addictions
Nervous and Mental Diseases

A quiet home-like, private, high-class, institution. Licensed. Strictly ethical. Complete equipment. New building. Best accommodations.

Resident physician and trained nurses.

Drug patients treated by Dr. Pettey's original method under his personal care.

DOWNEY HOSPITAL

A new, modern, up-todate two-story building with roof garden, equipped with steam heat, electric lights, electric signal system and new furnishings. All rooms outside, with or without private bath; hot and cold water in each. Fully equipped sterilizing and operating roms. Patients admitted suffering from Gynecological, Obstetrical, Abdominal and General Surgical conditions. Limited number of medical cases accepted. No contagious, alcoholic or mental cases admitted. Trained graduate nurses and excellent training school. For further information, address **DOWNEY HOSPITAL, Gainesville, Ga.**

Dr. Barnes' Sanitarium = = Stamford, Conn.

For Mental and Nervous Diseases and General Invalidism

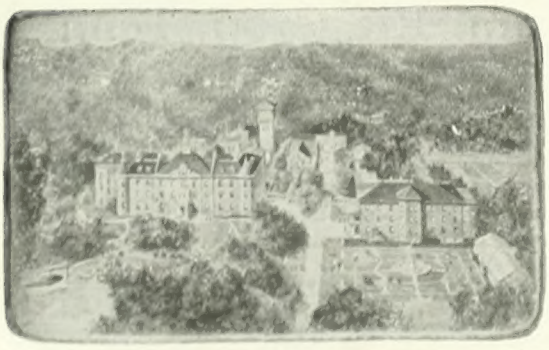
Splendid location overlooking Long Island Sound and City. Facilities for care and treatment unsurpassed. Separate department for cases of inebriety. 50 minutes from New York City. For terms and informatiton apply to

F. H. BARNES, M. D., Stamford, Conn. Long Distance Telephone 1867

Dr. Broughton's Sanitarium

ESTABLISHED 1901

For OPIUM, MORPHINE, COCAINE and OTHER DRUG ADDICTIONS, INCLUDING ALCOHOL and SPECIAL NERVOUS CASES. Methods easy, regular, humane. Good heat, light, water, help, board, etc. Number limited to 44. A well kept home. Address, DR. BROUGHTON'S SANITARIUM, or, DR. G. A. WEIRICK, Phone 536, 2007 South Main Street, ROCKFORD, ILLINOIS.



THE CINCINNATI SANITARIUM

INCORPORATED 1873.

FOR MENTAL AND NERVOUS DISEASES.

A strictly modern hospital, fully equipped for the scientific treatment of all nervous and mental affections. Situation retired and accessible. For details, write for descriptive pamphlet.

F. W. LANGDON, M.D., Medical Director.
B. A. WILLIAMS, M.D., Resident Physician.
EMERSON A. NORTH, M.D., Resident Physician
GEORGIA E. FINLEY, M.D., Medical Matron.
H. P. COLLINS, Business Manager.

BOX 4, COLLEGE HILL, CINCINNATI, OHIO.

Patronize our advertisers—mention the Journal when you write them.

New Mexico Cottage Sanatorium

E. S. BULLOCK, M.D.
Physician-in-Chief
I. D. LOEWY, M.D.
Associate Physician

—FOR THE TREATMENT OF—

TUBERCULOSIS

WAYNE MacVEAGH WILSON, Manager
E. D. NIXSON,
Assistant Manager

No region in the world equals the high altitude section of the southwestern portion of the United States for the treatment of tuberculosis. And of all the cities and towns in this section, SILVER CITY stands preeminent as a health resort.

Wonderful all-year-round climate. Moderate winters. Cool summers. Over three hundred days of sunshine each year. Hemorrhages rare. Night sweats unknown.

Splendidly equipped institution. Tuberculin in selected cases. Artificial pneumothorax. Heliotherapy. X-ray. Rates moderate.

Write for illustrated booklet,

The Land-of-the-Well Country **Silver City, New Mexico**

Dr. Board's Sanatorium

OFFICERS AND DIRECTORS
Dr. Milton Board, Pres. and Supt.
(Late Supt. West. Ky. Asylum for the Insane.)
(Late Member of Ky. State Board of Control Charitable Institutions.)
Dr. J. T. Windell, Vice-President.
Dr. Earl Moorman, Secy. and Asst.
Dr. W. E. Gardner, (Supt Central Ky. Asylum.)
Dr. A. T. McCormack
Dr. Leon L. Solomon
Dr. Irvin Abell

TELEPHONES.

Cumberland ...S. 480
Home 5996

REFERENCE.

The Medical Profession of Kentucky.

A modern, thoroughly equipped private institution for the treatment of *MENTAL AND NERVOUS DISESASES, DRUG ADDICTIONS AND ALCOHOLICS.*

Situated in the heart of the city, convenient and easy of access yet quiet and secluded. Opposite beautiful Central Park. Terms $20.00 to $35.00 per week. Outside patients charged office fees. For further information address

DR. MILTON BOARD, Supt., 1412 Sixth St., Louisville, Ky.

Patronize our advertisers—mention the Journal when you write them.

THE MERIWETHER HOSPITAL AND TRAINING SCHOOL FOR NURSES, Inc.

ASHEVILLE, N. C.

Since the death of Dr. F. T. Meriwether, his magnificent institution has been converted into a general hospital, receiving Surgical, Gynecological and Medical cases

The staff as selected by the management is as follows

MEDICAL—Dr. C. P. Ambler, Dean; Dr. M. L. Stevens, Dr. C. E. Cotton, Dr. A. F. Reeves.

SURGICAL—Dr. Eugene B. Glenn, Vice-Dean; Dr. F. Web Griffith.

EYE, EAR, NOSE AND THROAT—Dr. E. R. Russell, Dr. J. B. Green, Dr. R. G. Buckner.

NEUROLOGY—Dr. R. S. Carroll.

GASTROENTEROLOGY—Dr. A. W. Calloway.

DERMATOLOGY—Dr. W. C. Brownson.

PEDIATRICS—Dr. L. W. Elias.

G. U. AND DISEASES OF THE RECTUM—Dr. P. R. Terry.

ANESTHETIST AND HOUSE PHYSICIAN—Dr. W. J. Hunnicutt.

ALL COMMUNICATIONS SHOULD BE ADDRESSED TO

MISS FLORENCE PITTS, Superintendent, or MR. D. L. MERIWETHER, Business Manager

24 GROVE ST., ASHEVILLE, N. C.

ST. LUKE'S HOSPITAL

Richmond, Va.

Personally conducted by Dr. Stuart McGuire for the Accommodation of his Surgical Patients.

THE NEUROLOGICAL SANATORIUM

Incorporated

PRIVATE SANATORIUM OF

DR. BEVERLEY R. TUCKER

A private institution for the treatment of **Nervous Diseases.** Equipped with Hydrotherapy, Medical Electricity, Exercises and Massage. Nurses trained in the care of nervous patients.

102 and 104 E. Grace St., Richmond, Va.

The Stewart Home and School

For Nervous, Backward, Feeble-Minded Children and Adults

One of the best equipped private institutions in the country providing Mental and Physical development. Cottage system. Five buildings, Electric lighted and steam heated. Delightfully located on estate of 500 acres in the blue grass section of Kentucky. Highly endorsed by prominent physicians and patrons. A beautiful book will be mailed upon application.

Dr. JNO. P. STEWART,
Box 3, Farmdale, Ky.

G. H. MOODY, M.D.
Resident Physician

T. L. MOODY, M.D.
Resident Physician

J. A. McINTOSH, M.D.
Resident Physician

DR. MOODY'S SANITARIUM (Six Modern Buildings)

(Incorporated under the Laws of Texas.)

For Nervous Diseases, Selected Cases of Mental Diseases, Drug and Alcohol Addictions

315 Brackenridge Avenue ***SAN ANTONIO, TEXAS***

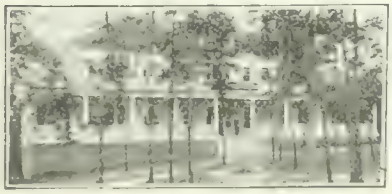
THE RICHARD GUNDRY HOME

HARLEM LODGE
CATONSVILLE, NEAR BALTIMORE, MARYLAND

ESTABLISHED IN 1891

A well equipped sanitarium and a delightfully homelike, restful place, for the care and treatment of nervous and mild mental cases, drug and alcoholic addictions. For rates and illustrated booklet, apply to

Dr. Richard F. Gundry, Catonsville, Md.

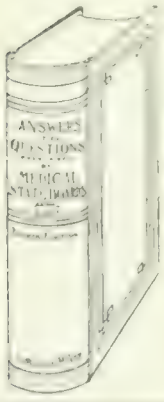


Glenwood Park Sanitarium

GREENSBORO, NORTH CAROLINA

W. C. Ashworth, M.D., Superintendent.

A [illegible] offering superior advantages for the scientific treatment of Nervous Diseases. Dr. [illegible] Superintendent. A modern building of fireproof construction, well heated and lighted, and equipped with hot and cold baths, up-to-date electrical apparatus, etc. Charming location in quiet suburb, where all patients may be accommodated. Patients given liberal treatment. Liberal reduction [illegible] Write for terms.



ANSWERS TO QUESTIONS

PRESCRIBED BY

MEDICAL STATE BOARDS

By

Robert B. Ludy, M.D.

Fourth edition, 8vo. 776 pages; price, $3.75 net, prepaid.

Only original state board book, not an imitator. Has real questions asked, with accurate answers by specialists.

JNO. JOS. McVEY, Publisher.
1229 Arch Street,
Philadelphia, Pa.

Medical College of Virginia

UNIVERSITY COLLEGE OF MEDICINE
MEDICAL COLLEGE OF VIRGINIA

(Consolidated)

Medicine - Dentistry - Pharmacy

STUART McGUIRE, M.D., Dean

New college building, completely equipped and modern laboratories. Extensive Dispensary service. Hospital facilities furnish 400 clinical beds; individual instruction; experienced faculty; practical curriculum. Seventy-sixth session opens September 15, 1914. For catalogue or information address

J. R. McCAULEY, Secretary,
1140 E. Clay Street Richmond, Virginia

POSTGRADUATE SCHOOL OF INSTRUCTION

Manhattan Eye, Ear and Throat Hospital, New York

Fall Semester Class now Forming

Individual and Graded Instruction in all Branches—Operative, Clinical and Laboratory Courses.

Limited Number of Advanced Students can be Accommodated in Students' Clinics—Eye, Ear, Nose and Throat Departments.

When applying, state education and previous experience.

For particulars address Secretary;

210 East 64th St., New York City

University of Cincinnati

COLLEGE OF MEDICINE

[illegible] Medical [illegible]

[illegible] Chemistry

THE COLLEGE CONTROLS FOR TEACHING PURPOSES:

[illegible] Hospital
[illegible] Hospital
[illegible] Hospital

[illegible] Ward of the New [illegible] General Hospital (to be built), built at a cost of [illegible] College Dispensary Clinic of over 20,000 patients per annum. Summer pre-medical courses. The New College of Medicine New Cincinnati General Hospital. Full [illegible] Small [illegible] Instruction [illegible] Cincinnati [illegible] Ohio. [illegible] DR. DEAN, College [illegible] Cincinnati, Ohio.

[illegible] when you write them.

New York Polyclinic

Medical School and Hospital

341-351 West 50th Street, New York City

Post Graduate Course for Physicians. New building, new equipment.

An Ambulance Service in a district with 360,000 people, furnishes the best possible acute surgical and medical service. In order to secure the full benefit of this service, rooms in the hospital are provided for students.

Special Work for those wishing to study selected branches, in carefully arranged clinics.

General and Complete Courses for Physicians seeking modern methods of diagnosis and treatment.

Modern Laboratory Facilities—Laboratory and Clinical Courses in preparation and administration of autogenous vaccines and tuberculin in gland and bone involvement. Students may matriculate at any time.

For further information address, JOHN A. WYETH, M.D., LL.D., President of the Faculty, or, MR. JAMES U. NORRIS, Superintendent.

The Medico-Chirurgical College of Philadelphia
Department of Medicine

Located in America's Medical Center. A School which offers Peculiar Advantages for Completing a Course under the Standards of the American Medical Association.

Completion of standard four-year high school course, or its equivalent, plus one year of work of college grade in Physics, Chemistry, Biology and one modern language required for entrance. All credentials must be approved by Pennsylvania State Examiner under specifications of State laws. **A Pre-Medical Course** in Physics, Chemistry, Biology and German is given, complying with Pennsylvania State and American Medical Association requirements. **The Course in Medicine** comprises four graded sessions of eight months each. Among the special features are Individual Laboratory and Practical Work in well-equipped Laboratories and Hospital, Free Quizzes, Ward Classes limited in size, Systematic Clinical Conferences, Modified and Modern Seminar Methods. Abundant clinical material is supplied by the College Hospital, Philadelphia General Hospital (1500 beds), and the Municipal Hospital for Contagious Diseases. Also Department of Dentistry and a Department of Pharmacy and Chemistry. For information, etc. address **SENECA EGBERT, M.D., Dean, 17th and Cherry Streets, Philadelphia, Pa.**

Increased Opportunities for Post Graduate Medical Work in Chicago

THE CHICAGO POLICLINIC and THE CHICAGO POST GRADUATE SCHOOL have affiliated and are now able to offer greatly increased opportunities and facilities for systematic post graduate work. After May 1, 1915, these institutions will be conducted as a single school, one ticket admitting the holder to the joint work of both institutions, and the schedules of clinics and didactic instruction will be so arranged that anyone wishing to pursue special lines will find all day work in the specialty. Personal instruction will be given in all departments including laboratory work and operative work on the cadaver. For details write either

THE CHICAGO POLICLINIC
M. L. Harris, Sec'y.
Dept. U. 219 W. Chicago Av.

THE POST-GRADUATE MEDICAL SCHOOL OF CHICAGO
Emil Ries, Sec'y.
Dept. 2400 S. Dearborn St.

NEW ORLEANS POST-GRADUATE SCHOOL OF MEDICINE

WINTER SESSION BEGINS OCTOBER 26TH.

UP-TO-DATE POST-GRADUATE INSTRUCTION to meet the requirements of the General practitioner or the Specialist in all branches of Medicine and Surgery.

ABUNDANT CLINICAL MATERIAL. Unexcelled clinical facilities in all the hospitals of the city of New Orleans, particularly the Great Charity Hospital where members of the faculty occupy the highest positions on the Visiting Staff.

FACULTY LARGE, permitting *individual instruction* and *special work* if desired.

For further information address Joseph A. Danna, M. D., Secretary, Suite 716 Maison Blanche Bldg., New Orleans, La.

The B-P Abdominal Supporter

Made to measure—not a stock affair.

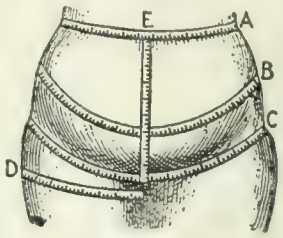
A new idea—cool—comfortable. Fits perfectly. Does not slip. A support—not a compress. No long wait. Indicated in

Pregnancy
Obesity
Hernias
Post-operative

We Make a Special Support for Entero-optosis

Write us for prices and literature

State whether for man, woman or child.



Take snug measurements over the skin.
A—Waist.
B—Abdomen.
C—Hips.
D—Thigh.
E—Height.

BOLEN MANUFACTURING COMPANY

213 BAIRD BLDG., OMAHA, NEB.

UNIVERSITY OF ALABAMA
SCHOOL OF MEDICINE

MOBILE, ALABAMA.

Rated in Class A by the Council on Education of the American Medical Association.

Registered as a standard school of medicine by the New York State Educational Department.

Member of the Association of American Medical Colleges.

ENTRANCE REQUIREMENT: One year of college work in Chemistry, Physics, Biology and a modern language, in addition to the usual four year high school course.

Fees, $150.00 per session.

The DEPARTMENT OF PHARMACY offers a two-years course for the degree of Ph. G. Fees, $100.00 per session.

For copy of the annual announcement and any information, address

THE DEAN, SCHOOL OF MEDICINE, UNIVERSITY OF ALABAMA
St. Anthony and Lawrence Streets **Mobile, Alabama**

Adequate Laboratory Service for Physicians

The Gradwohl Biological Laboratories have every known facility for accurate and prompt examinations of all kinds for physicians in need of laboratory help in their diagnosis.

Our Work Comprises:

Bacteriology **Pathology** **Serology**
Parasitology **Clinical Chemistry**

Complete Wassermann Test $5

Including a control test called the HECHT - WEINBERG TEST introduced into this country by us and proven to be the best control over the Wassermann, yet brought out.
AUTOGENOUS VACCINES—GONORRHEAL COMPLEMENT FIXATION TEST

FREE Sterile Containers for sending in blood.
Culture Tubes for making Autogenous Vaccines.
Literature on all These Tests, showing their various points of usefulness.

ASK FOR THEM

Correspond with us

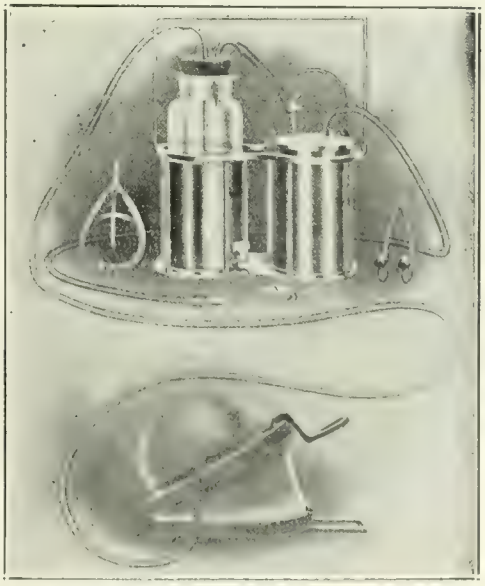
Gradwohl Biological Laboratories

803 N. Garrison Ave. R. B. H. GRADWOHL, Director **St. Louis, Mo.**

CAINE WARM ETHER APPARATUS

The only apparatus of its kind that will administer Warm Ether Vapor without the use of a flame. Designed especially for Throat Surgery, but practical in general work with the addition of a Gwathmey Mask. Simple and inexpensive in operation and always ready for immediate use. Nothing to get out of order. All working parts easily replaced.

Send for Literature and Prices



THE McDERMOTT SURGICAL INSTRUMENT CO., LTD.

SOLE LICENSED MANUFACTURERS

734, 736 and 738 Poydras Street, ***NEW ORLEANS, LA.***

Autogenous Vaccines $5.00

In every case the exciting organisms are isolated and made into the Specific Vaccines.

These Vaccines are put up in 20 c.c. sterile containers specially designed to prevent contamination. If desired the Vaccines will be furnished in 1c.c. sterile ampules.

ALL SEROLOGICAL TESTS NOW $5.00

Wassermann Test controlled by Noguchi or Hecht-Weinberg Methods.

Complement Fixation Test for Gonorrhea.

Abderhalden's Sero-Diagnosis of Pregnancy, Cancer or Dementia praecox.

Lange's colloidal Gold Test for differential diagnosis of Spinal Fluid.

We are prepared to perform all types of laboratory examinations for diagnostic purposes and can assure you accuracy and efficiency from our staff of experienced workers in this field.

Fee tables for all examinations and full directions for forwarding specimens, on request. Containers and culture media furnished.

CHICAGO LABORATORY

25 E. Washington Street CHICAGO Phone 3610 Randolph.

RALPH W. WEBSTER, M.D., PH.D., Director of Chemical Department.
THOMAS L. DAGG, M.D., Director of Pathological Department.
C. CHURCHILL CROY, M.D., Director of Bacteriological Department.

Look for the RED HEART on the bottle label---no RED HEART, its not Stafford.

STAFFORD WATER

The BO-GA-HA-MA (Water of Life) of the Indians.

DIURETIC
DILUENT
APERIENT
HEMATIC

Dr. Henry Froehling, of Froehling and Robertson, Chemists, Richmond, Virginia, on October 26th, 1914 collected in person water from Stafford Springs from which to make an exhaustive test. A complete report has just been made on the water---a report that justifies all the claims made of Stafford Water by its many friends.

Dr. Froehling in his report comments as follows:

"It has been shown that Radio Emmanations are very effective in Gout, Rheumatism, Sclerosis of the Arteries, and that the use of Radio Active waters either by drinking or bathing, have a strong tendency to increase the activity of the kidneys and bladder. This has perhaps been no uncertain factor in producing the many cures of Nephritis and other kidney troubles credited to the Stafford Mineral Water.

Stafford shipped in any quantity—handled by all druggists
We have excellent hotel accommodations at reasonable rates.

Stafford Mineral Springs and Hotel Co., Ltd.

Operated by COLBURN MORGAN COMPANY,
VOSSBURG, MISS.

Look for the RED HEART for genuine Stafford Water. *Write for booklet and analysis.*

and NOVATOPHAN

The Tasteless Atophan for Hypersensitive Patients

SCHERING & GLATZ

150-152 Maiden Lane **NEW YORK**

FREE COPY TO PHYSICIANS

It has been estimated that probably 90% of the families having sickness cannot afford a Trained Nurse, or prefer to nurse the patient themselves, unless the case is very serious or contagious.

The Home Folks, as a rule, do not know how to carry out your instructions; neither do they know how to make the patient comfortable, nor the best Nursing Appliances to get.

This Book saves a great deal of your valuable time by telling the Home Folks how to do these things. It is just the kind of Book you would select yourself for distribution amongst your patients.

A copy will be sent to you FREE on receipt of your card or prescription blank; and a copy will be sent to any of your patients on receipt of 25 cents.

MEINECKE & COMPANY

Advanced Specialties for Hospital and Sick Room

66-68-70 PARK PLACE, NEW YORK

EDUCATORS AND LABORATORY DIRECTORS

Especially will be interested in these

DIAGNOSTIC AGENTS AND APPLIANCES

PHENOL-SULPHONE-PHTHALEIN AMPULES: these contain the Mono-sodium Salt in biologically standardized, sterile solution. (.006-1Cc.,) ready for use. Renal functional test. More than enough for one test in each ampule. In boxes of ten ampules. Supplied at $1.00 per box.

UREASE-DUNNING: For the rapid and accurate estimation of urea, in urine and in blood. Supplied in packages of 40 twenty-five milligram tablets at $1.00 per package.

COLORIMETERS: FOR PHENOLSULPHONEPHTHALEIN. Rowntree and Geraghty Modification of Hellige, $20.00; with ampoules $21.00. Dunning $5.00; with ampules $6.00.

KEIDEL VACUUM BLEEDING TUBE: For obtaining specimens for the Wassermann and other blood reactions. Convenient and protective. Per dozen, $1.50. Special prices for large quantities.

Further information upon request.

HYNSON, WESTCOTT & COMPANY

BALTIMORE Pharmaceutical Laboratory MARYLAND

IT HAS BEEN PROVEN

Abundantly Proven

By a number of competent disinterested investigators—Bacteriologists and Clinicians—that tablets containing especially active vigorous and viable *Bacilli Lactis Bulgarici* can be and have been successfully marketed.

BULGARA TABLETS, H. W. & CO.

ARE SUCH TABLETS

Convenient--Possible to Preserve--Pleasant to Take—Handy to Carry—Easily Powdered.

The Council on Pharmacy and Chemistry HAS REPORTED, see The Journal A.M.A., December 6, 1913:

"Preparation of Hynson, Westcott & Co., Bulgara tablets. Five original packages of these tablets were examined. The tablets contained pure cultures of Bulgarian bacilli as shown by microscopic examination. In litmus-milk typical curd and acid reactions were produced. Inoculations into sterile milk produced typical coagulum, with very little whey and characteristic taste and appearance. The action was somewhat slower, however, than is produced by liquid culture. All five samples acted exactly alike.'

"The action was somewhat slower" is the only essential difference between this report and that on the best liquid cultures. The little extra time required to curdle milk in a test tube will certainly not apply where the tablets are ingested three times a day and when incubation is constantly going on.

HYNSON, WESTCOTT & CO.

BALTIMORE, MARYLAND

The Products of this Labaratory are now carried in stock by enterprising pharmacists all over the United States.

Armour's LABORATORY Products

Fresh raw material makes the most reliable goods

Armour's

Thyroids

Parathyroids

Anterior Pituitary

Posterior Pituitary

Ovarian

Extract of Red Bone Marrow

Liver of Lungfish

Pepsin-ing Tablets

Pepsin-ing Powder

Corpus Luteum

Pituitary Liquid (*Armour*)

PHYSIOLOGICALLY standardized.
Free from objectionable chemicals.

The safest in—

obstetrical cases—
uterine inertia—
peristaltic paralysis.

1-c. c. ampoules, 6 in a box, dated.

ARMOUR AND COMPANY Chicago

Patronize our Advertisers—mention the Journal when you write them

SOUTHERN MEDICAL JOURNAL

JOURNAL OF THE SOUTHERN MEDICAL ASSOCIATION

PUBLISHED MONTHLY

Editorial and Business Offices: Mobile, Alabama Publication Office: Nashville, Tennessee
Address all communications to Mobile Office

Volume VIII APRIL 1, 1915 Number 4

SPECIAL ARTICLE

WORK OF THE COUNCIL ON PHARMACY AND CHEMISTRY: ITS EFFECT ON MEDICAL PROGRESS.*

By GEORGE H. SIMMONS, M.D.,
Chicago.

It is nearly ten years (it was in 1905), since the creation of the Council on Pharmacy and Chemistry of the American Medical Association, and it may not be inappropriate to look back and see what, if anything, has been accomplished.

The proprietary medicine business, as we know it today, is a development of the last forty years; it had its impetus, at least, in the early seventies, when Lawrence, of "Medical Brief" fame and his imitators began to put on the market the various nostrums, which at one time made St. Louis as famous for its output of "patent medicines" for physicians to prescribe, as Milwaukee is famous for its antidotes to thirst. About this time the German synthetics, especially those which might be regarded as the by-products of the dye works—our so-called "synthetic chemicals"—began to appear. Ten years ago the number of so-called "ethical" proprietaries—including the typical nostrums, the more or less legitimate mixtures put out under copyrighted names, and the patented German synthetics—had become enormous. The profits being immense, there was naturally a steady increase in the number. While a few of these were of distinct value, the vast majority were simple mixtures of well-known drugs put out under fanciful, copyrighted names, and for the most part fraudulent in one way or another. Some were products of pharmaceutical and chemical houses of greater or less repute; the majority were put out by men who knew nothing about medicine, pharmacy or chemistry, but who went into the business of manufacturing medicines as they might have gone into any other get-rich-quick enterprise. This accounts for the fact that there was no statement too silly, no claim too extravagant, and no falsehood too brazen to go into the advertising literature that physicians were asked to read and to believe, and which was their authority for prescribing. Such commercialized therapeutics was preventing advance in scientific methods of treatment and intelligent clinical observation, creating in the minds of unthinking physicians a therapeutic optimism more fatal than the most radical therapeutic nihilism. But more serious, this commercialized materia medica blighted our literature by debauching medical journals, even tainting our text-books.

But these conditions had not developed without a protest by the thinking members of our profession. The subject was continually

*Read at public session Southern Medical Association, Eighth Annual Meeting, Richmond, Va., Nov. 12, 1914.

brought up at the annual meetings of the American Medical Association. As early as 1879 the Association adopted preambles and resolutions strongly condemning the use of these secret and semi-secret proprietary mixtures. In fact, scarcely a year passed that the question was not brought up before the Association in some form or other. Conditions, however, grew worse rather than better, and finally the problem became very acute on account of the advertising pages of The Journal. The question was: Must advertisements of all proprietary medicines be discarded? Are all bad? If not, is there some way of making a selection? To answer these questions the Council on Pharmacy and Chemistry was created.

Time prevents a discussion of how the Council attacked the tremendous task that it had undertaken—a task that included the solving of problems so difficult that they looked to be unsolvable. The work appeared, and proved to be, stupendous. Nor has any group of men, working from purely altruistic motives, been ridiculed, slandered—and, may I say, damned—as these men were at the beginning. I say "altruistic" because the work has been absolutely unselfish; it has been done without any remuneration whatever. I wish there were time to tell of the amount and character of the work these men have done and of the sacrifices they have made. If these were known the Council would have had more support from those for whom the work is directly done—the physicians of the country.

Now what has been accomplished? What have been the results of this ten years' work?

I regard as the most important result the fact that the members of our profession have been enlightened in a very practical manner regarding the various phases of the proprietary medicine business as would not have been possible otherwise.

Changes take place in social and business affairs so gradually that there may be radical changes in a certain length of time that may not be appreciated by the man on the street; it is only by looking back occasionally that we are able to realize that there has been a change. So it is here.

PATENT MEDICINE PROMOTING

About the time the Council was created "patent medicine" promoters were actually seriously imbued with the idea that the easiest way to establish a demand for their goods on the part of the public was through the doctors. I well remember, in the spring of 1904, taking lunch at the New York Drug Club and hearing a discussion, which I was not supposed to hear, at an adjoining table where this matter was being seriously considered. A little while after the same ideas were advanced in a paper published in "Printers' Ink"—an advertising journal. Let me quote from that article:

> "But the patent medicine of the future is the one that will be advertised only to doctors. Some of the most profitable remedies of the present time are of this class. They are called proprietary remedies. The general public never hears of them through the daily press. All their publicity is secured through the medical press, by means of the manufacturer's literature, sometimes gotten out in the shape of a medical journal, and through samples to doctors. For one physician capable of prescribing the precise medicinal agents needed by each individual patient there are at least five who prescribe these proprietaries."

This was possibly true when it was written—ten years ago; in fact, is it not true to a certain extent, even today?

The history of some of the preparations marketed "through the doctors," is interesting. Glycothymoline and Listerine are found in the majority of homes of the country, and yet these so-called "antiseptics" were not advertised directly to the public until they were "big sellers." (Listerine has recently gone over openly to the "patent medicine" class.) Antikamnia was as commonly used by the public as quinine, and yet it had never been advertised to the public, except through doctors, until two or three years ago. Bromidia, Gray's Glycerine Tonic, Sal Hepatica, Tyree's Anti-

septic Powder, Angier's Emulsion, which is advertised to the public in England—to name a few preparations—are being widely used by the public, and yet had never been advertised directly to them. It has been asserted that ninety per cent of Fellows' Syrup is sold over the counter directly to the public, and yet it has never been advertised except to and through physicians. This preparation, however, does seem at one time to have been an out-and-out "patent medicine." As to this let me quote from a book called "Forty Years an Advertising Agent," by George P. Rowell, founder of the advertising agency by that name.

"We had a successful advertiser in Halifax, N. S., who sold a medicine known as Fellows' Hypophosphites, that proved so good that some shrewd business men in the medicine trade, who knew about it, bought the trade-mark, incorporated a company with a capital of $100,000, retained the original owner as manager, stopped all advertising except in medical journals, and thereafter pushed the sale only through the medical profession. I had information at one time of a young man who was heir to an uncle, recently deceased, and had come into possession of a certificate of stock of this company, of the face value of $6,000, and made up his mind that, shrewd as the old gentleman was, he had, without doubt, acquired trash in this instance, and I heard further, that the young man began to think better of the doubtful asset, when one day a dividend check came; and when, at the end of the year, he realized that within the twelve-month that $6,000 certificate had brought him $9,000 in dividends, he began to revise his estimate of his deceased uncle's prescience in making investments."

It is needless to say that the Council's work and an awakened profession have checked this method of introducing "patent medicines" that was seriously considered ten years ago.

CHECKING THE OUTPUT.

Again, it is no longer possible for fraudulent nostrums to get a start. Here are a few of the many that have been nipped in the bud by the Council's work:

Six years ago a physiican wrote asking if the Council had investigated "Mercol," a preparation just introduced. Our correspondent said that he had found Mercol a most excellent way of giving mercury, since it had none of the bad effects of this drug, and thought the Council should accept it. It was advertised as a solution of mercury bin-iodid in oil; investigation showed that it contained no mercury. It developed that in the method of compounding the mercury was eliminated. This, we may be generous enough to presume, was a case of ignorance; not a deliberate attempt to deceive. But had the Council not been in existence, the preparation would most likely have become popular. Certainly if mercury could be given in as large doses as it was represented to be given in Mercol without causing salivation or other untoward results that follow its use in large doses, this preparation ought to have been a big success. So far as I know it is heard of no more.

"Vanadiol" was introduced to our profession as a great remedy for many diseases. It was made by the Vanadium Chemical Company of Pittsburgh, an offshoot of the Vanadium Steel Company. Evidently someone connected with the latter concern thought that as vanadium was a good thing in steel it would also be a good thing in a proprietary medicine. The Council, after investigation, published a report to the effect that there was no evidence whatever to warrant the claims made for it. It is heard of no more.

Three years ago Sinkina was advertised to physicians as a specific for malaria. Judging from the advertising, this preparation would remove malaria from the face of the earth. It was astonishing and rather discouraging to see how many physicians immediately accepted the statements of a layman regarding its use. Our chemists, after examination, concluded that it was an elixir of Roman caraway. Here may I mention the fact that whenever the Council finds it necessary to call on physicians for clinical assistance, as in this case, the call is seldom made in vain. In this instance the

Council was fortunate in securing the services of the Commission for the Study and Prevention of Malaria of this, the Southern Medical Association. It is needless to say that investigations made by such men as Drs. Bass, Henson, von Ezdorf, etc., are scientific and convincing. Since the publication of the report on Sinkina the nostrum has been dead or practically so.

Another "ethical" proprietary of the decade was "Labordine," claimed to be a vegetable antipyretic and a remarkable remedy for many and various diseases. It was becoming popular among a certain class of doctors until our laboratory's report showed that it contained forty per cent of acetanilid, and little else of value.

Among other proprietaries which the Council has eliminated from the "ethical" class are: Jaroma, an asafoetida mixture heralded as a sleep producer; Enteronol, a specific against Asiatic cholera and all kinds of intestinal diseases; Oxychlorine, the chlorate of potash, saltpeter and borax mixture which after exposure by the Council had a short existence as an intravenous injection; Calmine, a disguised veronal sleep producer, and Waterbury's Metabolized Cod-Liver Oil, which contains barely a trace, if any, of cod-liver or any other oil. These are a few illustrations of what the Council has actually done in preventing the sucessful introduction of fraudulent or semi-fraudulent nostrums. Not a single nostrum has been successfully introduced to the physicians of this country since the Council started; while previously there was [illegible] at least one "ethical" proprietary was not foisted on our profession.

[illegible]

[illegible] tising pages of medical journals are still for sale to those who are foisting these preparations on us.

Incidentally, this brings up one discouraging phase. At first thought one might imagine that medical journals, presumably representing the medical profession, would have supported this movement. As a matter of fact, as is well known, the opposite occurred from the beginning, and has continued, in some measure, even up to this time. There have been a few exceptions, however, and may I at this time be specific and refer to the journal of this Association as one? Certainly the Southern Medical Journal deserves the support of every man in our profession—at least of every man in the territory it covers—if for no other reason than because of the temporary financial sacrifices it has made in co-operating with the Council and keeping from its pages proprietary preparations not approved by that body. Your journal has proved that the medical profession stand ready to support a high-class, clean journal. This question of the relation of medical journals to the nostrum evil in this country is a big one I wish there were time to say more about it. There is time to say that the same conditions exist here as in the relation of the newspaper to the "patent medicine" business. It would amount practically to stating an axiom to say that if the newspapers would stop advertising fraudulent "patent medicines" the latter would soon vanish; so also if medical journals would stop advertising these fraudulent and "unethical" proprietaries these preparations, too, would immediately become a thing of the past. It is foolish for us to berate newspapers for carrying "patent medicine" advertisements so long as we tolerate practically the same kind of advertising in our medical journals.

LAYMEN SUPPLYING OUR MEDICINES.

Another factor connected with the proprietary business must be emphasized, viz., that many of these preparations, though made for [illegible] physicians, were originated and promoted by

laymen, who went into the business as they would go into any other money-making venture. Can any of the concerns to which I referred a moment ago be regarded as legitimate manufacturing pharmacists? The Vanadium Chemical Company was a layman's organization. The "Metropolitan Pharmacal Company," which put out Sinkina, was merely another name for a layman. The Labordine Pharmacal Company was owned by H. M. Coudrey, an insurance agent, who thought he saw a great opportunity in "working" the doctors, but who was finally convicted by the Government for fraud. The "Dios Chemical Co.," which for more than a quarter of a century has been foisting on our profession the nostrums Dioviburnia, Neurosine, Germiletum and Palpebrine, is another name for J. H. Chambers, who, so far as I know, has never claimed to have any special knowledge of pharmacy, chemistry or medicine. Micajah's Uterine Wafers—until recently advertised in medical journals, and consequently prescribed by many physicians—were the output of Micajah & Co., a concern operated by a layman, who also owned and promoted the "patent medicine "Piso's Consumption Cure." "Pa-Payans, Bell," Salacetin and Sal-Codeia (Bell) were advertised to physicians by Bell & Co., laymen, who also, it is alleged, composed the L. D. Johns Company, which sold a "patent medicine" known as Dr. John's Pills. Alleotone, liberally advertised in medical journals before the exposure by the Council, was promoted by B. F. Copeland, who—quoting from the expose published in THE JOURNAL—"has at different times been in charge of a stave factory and connected with a brokerage firm, which may exert some subtle influence in developing the abilty to relieve suffering humanity, though the connection is not quite clear." Mr. Ballard, of St. Louis, is the promoter of Ballard's Snow Liniment, Brown's Iron Bitters, Herbine, Dr. Herrick's Vegetable Liver Pills, Swaim's Panacea, Renne's Pain-Killing Oil, and other "patent medicines." How many physicians know that this same concern advertises to physicians Campho-Phenique and Campho-Phenique Powder? Also that the same concern puts out Henry's Three Chlorides, Henry's Tri-Iodides and Maizo-Lithium? Happily, through the Council on Pharmacy and Chemistry, our profession is gradually being made acquainted with this phase of the proprietary business.

Ten years ago one could pick up scarcely a medical journal that did not contain, in the form of an original article, at least one veiled write-up and puff of a proprietary preparation. Nine times out of ten if the word "Anemia" appeared in the title the paper would prove to be a puff for Gude's Peptomangan; if it referred to a specific disease, our old friends Mercauro or Arsenauro would quite likely be found in the body of the article; if the subject had to do with aches or pains, or, in fact, almost any conditon, one was likely to find mentioned Antikamnia, Phenalgin or Ammonol, and so on with other of the well-known "ethical" proprietaries. Now one practically never sees such articles in medical journals.

Previous to ten years ago testimonials by doctors were a common commodity, and even intelligent physicians, men of standing, seem to have been easily influenced by the persuasive individual who wanted to get a nice letter of recommendation for his product One of the most interesting exhibits in our Propaganda Department is the testimonial card-index file. It contains the names of probably ten thousand physicians who, during the preceding quarter of a century, had given testimonials, with the particular testimonial credited to each. When this card file was started it required almost the entire time of one clerk to keep it up to date; now the additions average scarcely one a month. The doctor thinks twice and weighs the evidence before giving a testimonial today.

Evidence gained two years ago from druggists in various parts of the country indicated that the prescribing of proprietary mixtures

had fallen off enormously—estimated at from 40 to 60 per cent, according to locality.

Another, and an important, result of the Council's work will be found by comparing the advertising literature sent to physicians nowadays with that of ten years ago; we seldom see the absurdly extravagant and lying stuff regarding proprietaries that was then inflicted on us.

Another indirect result has been the development of the most important work the American Medical Association is doing—that on "patent medicines" and medical frauds on the public. The Council confines its activities to products used by physicians; "patent medicines" are outside its functions. But as the dividing line between "patent" and "proprietary" medicines is invisible, imperceptible—in fact, non-existent—it is natural that THE JOURNAL should step over this imaginary line and branch off occasionally into the so-called "patent medicine" field. This "patent medicine" work has developed so rapidly that it has tended to monopolize the energies of those who were in charge of the work to the neglect of the "ethical" proprietary phase of the propaganda. In a word, with no intention of pushing the "patent medicine" phase of the propaganda it has developed in the past three years almost beyond belief. The correspondence with the public has become so great that the one in charge of this department must devote practically all his time to it and requires the services of four assistants. The encouraging part is that laymen are co-operating, bringing about practical results.

Constructive, not destructive, criticism makes for progress. For the first few years the Council might be regarded as tearing down rather than building up. But not all its efforts have been destructive; rather, almost from the first it was looking forward to constructive efforts. May I refer to some examples?

It was realized that a part of the responsibility for the nostrum evil rested on the medical schools. A few years ago the Council appointed a Committee on Medical Teaching with the teaching of materia medica and therapeutics especially in mind. This committee has done a great work, but has done it quietly. It prepared a series of letters to the teachers of clinical medicine and of materia medica and therapeutics in those schools which expressed a willingness to co-operate—which means all of the better schools of the country. The object in view was to enlighten the recipient as to the actual conditions, so that he would be able to enlighten his students. These letters pointed out wherein the medical colleges had failed in this branch of medicine—that, as a result, the young practitioner was an "easy mark" for the nostrum promoter. Each year the committee has caused to be placed in the hands of the graduates literature that would enlighten them.

Pharmacology—the science of the physiologic action of drugs—would seem to be almost a new science in this country; a decade ago there were scarcely a dozen medical schools that recognized it. In many colleges it seemed to be regarded as more of an art to be able to write a complex, shotgun prescription than to know the physiologic action of an individual drug and in what conditions it was indicated. Of course each school had its professor of materia medica and therapeutics—although often this chair was an adjunct or subordinate to some so-called major branch—but no teacher of pharmacology as such. The subject was hardly mentioned in the curriculum. Today sixty-seven colleges have whole-time teachers on this practical and vitally important subject; in fact, the demand for trained pharmacologists now far exceeds the supply. The influence of the Council on Pharmacy and Chemistry has undoubtedly had much to do with bringing about this splendid improvement in medical education in this country.

THERAPEUTIC RESEARCH.

Three years ago the Council asked the Trustees for authority and for an appropriation to create a Committee on Therapeutic Research, with the object of securing the application of scientific methods to the investigation of effects of drugs—of encouraging scientific research of practical pharmacologic questions. In the past, statements regarding therapeutic measures found in text-books on materia medica were copied and recopied until they were accepted as gospel truths, and conclusions as to the value of this or that drug too often have been based on superficial clinical experience, and without putting such evidence to scientific proof.

This committee, by awards and otherwise, has been and is securing investigation of such questions as the activity, stability and physiologic action of certain commonly used drugs: as, for instance, the different effects of the various bromides; the toxicity and therapeutic effects of the salicylates, and the difference between the natural and the synthetic; the clinical effects of caffein, of phosphorus compounds, of mercury absorption; the action of strychnin; the value of the newer opium preparations; the action and limitations of hexamethylenamin, etc. Of the results of some of this work you know, since they have been incorporated in various published papers. The practical value of such work must be evident to all; if progress is to be made in drug therapy it will be based on scientific, and not on uncontrolled, individual, clinical evidence.

USEFUL DRUGS.

I must refer to one more phase of constructive work: It is that of simplification of our materia medica. One of the serious handicaps to the study of this branch of medicine is the number of official and semi-official drugs—the number being so large that it is impossible for any one individual to obtain even a smattering knowledge of them. To improve conditions in this respect a selection of a limited number has been made of the better known and more valuable drugs, and these, with a brief exposition of their pharmacologic action and therapeutic uses, have been published in a book known as "Useful Drugs." The book contains 245 drugs, many of which will undoubtedly be eliminated from later editions as being worthless. In brief, this is an attempt to supply a semi-official, selected list of drugs to be used as a basis for teaching in medical schools and for examining by State examining and licensing boards. A considerable number of medical teachers have adopted this book; also a number of State examining boards are already basing their materia medica examinations on this selection. Personally I feel that in the future the medical profession will thank the Council for what it has done in this regard.

I have been able in the time allotted me to review only in a disconnected and brief way the work of the Council and its far-reaching results. To what extent these results have already influenced the progress of American medicine, and how immeasurably greater they may influence it and our profession in the future, only those who have followed the subject closely can imagine. This much is certain, the Council's work has made it possible for the practicing physician of today to have a keener sense of the value and limitations of drugs. It has placed the allied arts and sciences of therapeutics and pharmacology on a sounder and more scientific basis than ever before. And, finally, it can be truthfully said that the gentle art of swindling the public through the instrumentality of the doctor is becoming less popular and less profitable every year, and the Council on Pharmacy and Chemistry of the American Medical Association must be given the credit.

MEDICINE

INTERNAL DISEASES, PEDIATRICS, NEUROLOGY, DIAGNOSTIC METHODS, ETC.)

THE HEART IN THE COMMON TYPES OF LIVER DISEASES.*

By Alexander G. Brown, A.B., M.D.,
Richmond, Va.

It may be said of the heart and the liver alike that the study of their function is now recognized as an important consideration. Formerly, of the heart it was the recognition of anatomic changes in the valves as disclosed by the presence of murmurs upon the chest wall that interested the practitioner, while latterly it is the recognition of the physiologic incompetency and its correction, so far as possible, that offers the best opportunity for removing the cardiopath from zones of danger. So it is now not so much the gross anatomic changes elicited by palpation and percussion that has taken place through degeneration of hepatic cells and hyperplasia of connective tissue, as it is the judging of the amount of physiologic action dormant, or capable of being gotten out of a diseased or impaired liver, which is the important consideration. If this view of the matter be taken it is not profitless to mention for a moment the means we have for the more or less accurate estimation of the rather early evidence of impaired liver action.

The new tests for liver function afford a means for searching for this liver impairment. These tests, while not considered by us as having reached any sort of state of perfection wherein they answer all the many-sided physiologic activities of the liver, serve well in a clinical sense to show faults of function [illegible]

*Read in Section on Medicine, Southern Medical Association, Eleventh Annual Meeting, Richmond, Va., November 11, 1914.

application over certain periods of time, to what may be considered to be the functioning power of a given liver case. The fact that none of the tests have been generally adopted as fulfilling all requirements makes the question of relying fully upon any one of them uncertain. Whether it is the lipase test, the fibrinogen, the phenol-tetrachlorphthalein test, the galactose test, or the urobilinogen test, it is a matter of personal preference, for each one has its limitations. However, I rely upon the urobilinogen test for impaired liver function. Its routine use in the examination of urine for its positive reaction has many times pointed out the way in complicated and obscure cases, indicating what may have otherwise escaped me, the part played by the liver. As we are looking at the behavior of this organ in relation to the heart it is all the more important if their relations are close and interdependent in any measure, to have some fairly accurate means of learning of the failure of the liver in its function.

It is not difficult to recognize the relationship between the heart and the kidney. The cardio-renal and the cardio-vascular-renal relation is daily observed in the terminal stage. The heart hypertrophy and dilatation and diseases of the kidneys are concomitant. The cardio-hepatic relation, I want to impress, while not so dramatic and spectacular, is just as real and important and should be early recognized and therapeutically dealt with. The rewards of early recognition are quite as great, if not greater, while the late and terminal recognition of a broken heart and a diseased liver is as hopeless of favorable outcome. The close association of heart and of liver in the cardio-renal-hepatic and the cardio-hepatic syndromes makes very important the determination or discovery of the liver

factor by function-test reactions bringing out this relation oftentimes before it becomes demonstrable by ordinary physical examination. In the treatment and management of any form of heart disability or disease the earliest diagnosis of the cause thereof and of any associated disorders is quite necessary to satisfactory therapeutic procedure, to say nothing of the successful issue of the disease problem. It is because of this that the early discovery of liver function as disclosed with more or less constancy by liver-function-test is urged as desirable diagnostic methods in connection with the study of cases of cardio-hepatic type.

Before proceeding to the consideration of the type of liver disorder which may be related to cardiac competency one should as briefly as possible point out (a) the mechanical vascular connections and relations, and (b) the functional or toxic factors which may separately or combined enter into the total picture of cardio-hepatic disturbance* The liver receives its arterial blood through the hepatic artery, a member of coeliac axis (gastric, hepatic and splenic) branch of the abdominal aorta. The liver receives venous blood from the chylopoietic organs of the abdomen (stomach, intestines, pancreas and spleen). Except for these certain communicating collateral connections to be mentioned later all the venous blood from these organs passes to the liver through the portal vein. Venous blood from the kidneys, urinary bladder and sexual organs does not pass through the liver via portal circulation, but returns directly into the inferior vena cava to the heart.

The portal vein is formed by the junction of the superior mesenteric, splenic, inferior mesenteric and gastric veins. The superior mesenteric vein returns blood from small intestines, coecum, ascending and transverse colon (superior mesenteric artery).

The splenic vein receives vasa brevia from left extremity of stomach, left gastro epiploic vein, pancreatic branches from the pancreas, the pancreatic-duodenal vein and inferior mesenteric vein.

Inferior mesenteric vein returns blood from the rectum, sigmoid flexure and descending colon.

The gastric veins are two in number: one, a small vein, corresponds to the pyloric branch of the hepatic artery; the other corresponds to the gastric artery.

The hepatic veins forming the returning system to both the arterial and venous blood of the liver emerge as three large veins and converge and open into the inferior vena cava, and are destitute of valves.

Following the reflux of portal blood or any obstructive action in the liver to portal blood there are four communicating systems of veins by which the inferior vena cava may be reached without passing through the liver.

1. The communication between the superior gastric with the diaphragmatic and inferior oesophageal veins which return the blood to the azygos vein and to the vena cava (hematemesis).

2. The haemorrhoidal plexus, which consists of the median and inferior haemorrhoidal veins, returns its blood to the hypogastric and inferior vena cava. The superior haemorrhoidal vein returns its blood into the inferior mesenteric vein and into the portal vein (the outward evidence of portal engorgement frequently).

3. A communication between the portal vein and the vena cava exists through the venous plexus at the outer surface of the peritoneum, returning in part through branches to the portal, and in part to the vena cava through the lumbar, vesical and haemorrhoidal veins.

4. Communication between the accessory portal branch with vena cava branching off from the trunk of the portal vein extending into the suspensory ligament adjacent to the ligamentum teres and passing externally in the neighborhood of the umbilicus in two venous twigs which join the epigastric vein and the internal mammary vein (caput medusae).

*Read Lenbe's Special Medical Diagnosis

There are two chief functions performed by the liver—bile production and metabolism of soluble products in portal circulation.

The portal vein bears the soluble food products from the alimentary tract, and these are acted upon by the liver cells before being turned over to the general circulation for distribution and utilization in metabolism.

The disturbed functional action of the diseased liver must embrace more or less completely all of its important physiologic activities which, being perverted, acts directly upon the cardiac muscle either through the portal-hepatic vessels or through the more vicarious short route of the collateral circulation above mentioned.

ACUTE HEPATITIS.

Acute inflammation of the liver is not infrequently the cause of sudden death in cases of crippled hearts with weak myocardium. Exposure to cold, attacks of dysentery and malaria may produce a sudden vasomotor paresis of the rich blood vesels of the liver and the organs become engorged to the embarrassment of the heart through the hepatic artery. Toxic agents suddenly thrown into the blood stream, poisons of early pregnancy, and uremic states, pernicious anemia, dysenteric inflammation, ulceration of the intestines, duodenum and stomach, inflammation of the gall bladder and pancreas may produce sudden congestion of the liver with cardiac weakness and dilatation.

The clinical picture is that of the etiologic factors with enlargement of the liver and spleen with pain on pressure and discomfort in upper zone of the abdomen. Jaundice, piles, dyspnoea, cardiac anguish and scanty urine characterize this condition, which is one of extreme danger in its acute form, but under careful management may be relieved in a few weeks' time and the organs returned to their former state. If neglected, however, it may terminate fatally, or may be but the beginning of a cirrhosis.

ACUTE PASSIVE HYPERAEMIA OF LIVER.

The liver may serve as a [illegible] for a dilating heart by driving the blood into the liver and resting the right heart. The clear retrograde course from the right heart to the expansible liver affords the heart a great, sponge-like organ into which it may drive, when overcharged with its fluid burden, its excess of blood, and in that way the heart muscle may resume its more or less normal state for purposes of coronary circulation and heart-muscle nourishment. This rich venous organ may serve beneficently the venous circulation by receiving and sidetracking temporarily a limited but telling amount of venous blood which may have been just too much for the right side of the cardiac organ.

If the liver is itself a more or less normal organ, and the heart is crippled by an organic lesion, with myocardial deficiency, this great organ may serve it well in the hour of its impending failure. The portal route of return may be cut down temporarily, and yet its four collateral routes of communication directly into the vena cava by way of the "hemorrhoidal," "peritoneal," "esophogeal" and "caput medusae" afford relief from what may otherwise prove to be an engorgement of the splanchnic circulation and mesenteric stasis. With three veins without valves returning the retrograde current from the right heart, with a hepatic artery with low blood pressure conveying small quantities of arterial blood for return from the liver, and with the four-route-collateral circulation, the failing heart may have in the liver a useful ally in times of extreme emergency.

CHRONIC VENOUS ENGORGEMENT OF THE LIVER OR "CARDIAC LIVER."

This association of these organs affords the most direct and immediate effect. The mechanical and anatomical relation is at once apparent. The heart, receiving the blood from the vena cava inferior, which in turn receives the hepatic veins with their "liver quota" of blood, is in direct communication with the heart, particularly so as the hepatic veins have no valvular structure in their channels to interfere with the back current from the heart

In view of this short and direct connection it is interesting to trace out the relation and the factors that may cut into cardiao-hepatic association. The venous congestion of the liver is secondary to some obstructive pathology in the heart or lungs.

Stenotic and regurgitantomitral disease, myocarditis and dilatation are frequent factors in the production of dilatation of the right heart and engorgement of the vena cava, and the overfilling of the hepatic veins with distention of the liver. Mitral stenosis may be put down as an infrequent association with hepatic engorgement and enlargement. The lungs and the right heart may also participate as an etiologic factor in the hyperaemia of the liver. This may be the result of chronic bronchitis, emphysema, chronic pneumonia. Pulmonary tuberculosis is notably absent in this association. The pressure of tumors or enlargement upon the inferior vena cava between the hepatic veins and the right heart may produce a like result of enlargement of the liver. The mechanical effect of this unusual pressure in the hepatic veins causes dilatation with thickening of the walls. As a result greater pressure is produced in the inferior vena cava, making backward pressure in the veins of the legs and renal veins. In such a condition there is a feeling of tightness, fullness and of dragging in the left upper quadrant of the abdomen. Tenderness is quite marked, due no doubt, to the extreme tension upon the capsule. Deep respiration and coughing, walking or jumping produce pain and discomfort. Associated with this is impairment of digestion, loss of appetite, nausea. Owing to the more or less stasis in the tardy circulation of the stomach and intestines there follow tympanites, constipation, or intermittent diarrhoea. Englargement of the spleen, with symptom of weight and heaviness in the left costal region, is usually observed. The enlargement of cardiac diameter, the enlargement of the liver, and the enlargement of the spleen, frequently with hyperemic kidneys, make for a picture of extreme gravity and discomfort, but one which is not infrequently met. Under such conditions the cardiac impact may be communicated to the liver, giving the pulsations to the liver. The pulsations may be synchronous with the systole of the auricles and the impact pulsations may be confounded with a venous pulse. Ascites follows in many cases. Diaphragmatic pleurisy, jaundice, nephritis, may follow. The course depends upon the heart muscle and upon the occurrence of acute infections. Too much importance, however, must not be assigned to the formation of the "cardiac liver" for mere mechanical conditions or defective hydraulic states. It is not uncommon to see cases in which other and important factors enter in to make up the sum total of the passively congested liver. These factors must be dealt with in attempting to effect relief for the patient. The presence of toxins from the intestines, microorganisms in the gall-bladder, ulcerations in the stomach and duodenum, pancreatitis, malaria, arteriosclerosis, nephritis, etc., may be associated.

CIRRHOSIS OF THE LIVER.

In discussing the heart in relation to cirrhosis of the liver, one should arrange a classification of the big group of cases for the purpose of looking the whole subject over in one brief form. The classification by Chauffar mentioned by Rolleston, according to the etiologic route of production, fits into what I would wish to impress in connection with the heart and circulation.

I. Vascular
- (a) Toxic
  - i. Poisons taken by mouth.
  - ii. Poisons manufactured in the intestines
- (b) Infective
  - i. The direct action of microorganisms.
  - ii. The action of bacterial toxin, either produced by bacteria in the liver itself or manufactured elsewhere in the body and carried to the liver.
- (c) Dystrophic
  - i. Due to arteriosclerosis
  - ii. Due to chronic venous congestion.

II. (a) Secondary to obstruction of large bile ducts.
(b) Primarily an inflammation of smallest bile ducts.

III. Capsular cirrhosis or perihepatitis.
- (a) Chronic localized.
- (b) Chronic universal.

This elaborate classification of cirrhosis, "based on the various methods by which the changes in the liver are brought about," shows

one big fact most clearly. Cirrhosis of the liver is a degeneration of the elemental parts of the organ due to long continued intoxication of its tissues of one sort or another. Poisons or toxins, bacterial or autotoxic, produce in this group of 1,200,000 (Sappey) hepatic lobules, or its vascular capsular or canular structure, degenerative changes. Whether atrophic or hypertrophic in type, the changes are degenerative. This one fact of poisoning of the liver structure should be remembered when thinking of the heart muscle of a cirrhotic liver patient. The same poisons pass on into the cardiac structure and produce a flabby heart muscle, which robs the cardiac systole of force and sustained power, permit the blood stream to course under low pressure, and favor acute dilatation of the heart.

The heart, in all types of cirrhosis, has a complicated, difficult and vicious train of conditions to conform to and to negotiate. It may be said that in cases in which the vascular renal state remains in fair condition until far into the pathologic complication of the liver, the heart, as a rule, exhibits surprising endurance and integrity of action. Often, in this group of cases, the heart gives little or no appreciable evidence to the patient of failure long after the liver-syndrome is palpable and obtrusively displayed. Further, it may be said, that if these cases are not gotten under treatment in a too advanced stage, surprisingly good results may be accomplished through therapeutic management. The heart, in persons in whom there is a concomitant arteriosclerosis of the general circulation and chronic nephritis, has a much graver and more difficult outlook. For in a complication of this sort the means provided by nature of collateral circulations are themselves less serviceable and the toxic matter is of a dual sort. Even a heart that has an organic lesion upon the left side, excepting mitral stenosis, may get along fairly well, under favorable circumstances in the general arterial vessels. The liver may reach a grave alteration before the heart will exhibit serious or alarming failure. When it does show beginning failure, it will be due not so much to mechanical obstruction to the flow of blood as to the toxic condition of the heart vessels which is early expressed in the slowed and depressed systole and in an only moderate degree of increased blood pressure.

In cirrhosis cases there is another danger which is more or less subtle, but nevertheless evident and actual. This is the over-development of a very free and rich collateral anastomosis. In this way the portal blood, which is filled with products for liver digestion, is set free directly into the general venous circulation and quickly sets up a toxemia resembling uremia. Besides adding much to the cardiac load it brings heavily charged poisoned blood into the cardiac muscle and tends to superinduce arteriosclerosis and granular kidney.

The spleen is another burden upon the heart. Its enlargement is due both to toxic and mechanical agents. The circulatory back pressure from the enlarged portal vein makes the mechanical obstruction of direct importance upon the left ventricle, which muscle is affected by like toxins as the spleen, although not so markedly, yet just as really within certain limitations. Likewise the circulation of the blood in the esophagus, stomach and intestines is obstructed, and produces obstruction to the free passage of arterial blood.

To sum up, in cirrhosis of the liver the heart muscle weakens and dilates. The change is due to toxic and mechanic conditions, the toxic predominating.

GALL BLADDER DISEASE.

The heart's relation to the gall-bladder is twofold. In the first place, it is recognized that the chronic heart disease is predisposing and tends to the production of cholecystitis and cholelithiasis. This is brought about through the enforced sedentary life of the cardiopath and by the effect of back pressure upon the gall-bladder region. Upon a congested mucosa, infective microorganism, through lymphatic and circulations, set up an implantation and proliferation which eventuates in inflammation

of this adnexa of the liver. Further, it is readily now recognized that an infected gall-bladder may be the origin of focus of infection whereby the endocardium may be secondarily involved, producing a long train of symptoms arising from the heart.

SYPHILITIC LIVER.

Syphilis of the liver is another interesting association which is worthy of closest scrutiny on the part of the clinician. One must now recognize that late syphilis may display itself in the internal organs without giving evidence of its existence by any outward sign in the skin. The liver is a favorite site when it attacks the organs. When the spirochaeta pallida retreat to the liver, producing the varied pathology seen there, it is not infrequent that in the cardio-vascular system there is set up a concomitant degenerative growth in the endocardium about the aortic opening and in the ascending and transverse aorta, if not in the the general arterial tree. With this knowledge one's clinical judgment will be necessarily influenced and therapeutic procedure guided.

DISCUSSION.

Dr. J. Garnett Nelson, Richmond, Virginia: In the first place, I wish to commend my friend, Dr. Brown, for his courage in tackling a proposition of such tremendous interest, but presenting such difficulties. So far as I am aware, there has been little or no work done that entirely demonstrates a definite relation of cause and effect between hepatic disorders and pathological changes in the myocardium and endocardium; that is, with the exception of bile tract infections. In bile tract infections there seems to be no doubt that endocardial and myocardial troubles develop that are secondary to these infections, and they clear up very nicely when the bile tract is cleaned up.

Of course, it is true that cardiac involvement may be the primary and sole cause of liver involvement, whether temporary, such as a passive congestion, or permanent, such as a cirrhosis. But is the converse true? Is it true that hepatic disease is a definite, primary, etiological factor of heart disease? Is there any toxin liberated in the circulation in cirrhosis, fatty degeneration, amyloid liver or any other disease of the liver that is of itself singly and alone responsible for changes in the heart or its membranes? Or is there any definite mechanical obstructive condition about the liver that we know to be the direct cause of dilation or hypertrophy? These and similar questions suggest themselves, and, so far as I know, remain unanswered.

Our knowledge of liver function itself is unsatisfactory. Some of you may have heard a paper read before the American Medical Association at its last session, a report of very careful work done by Drs. Chesney, Marshall and Rowntree in the Departments of Physiological Chemistry and Pharmacology at Johns Hopkins. They report numerous experiments in carbo-hydrate and nitrogenous metabolism, and their findings and interpretation in tests for urobilinogen, fibrinogen, lipase, phenoltetrachlorphthalein, and fibrinolytic ferment.

In concluding this report they give several reaons why their work is not productive of very much, and leads practically into a blind alley, and wind up by saying, "The results, however, encouraged us in the belief that scientifically and also clinically this subject is worthy of extensive investigation." This is as far as I personally am able to go. Theoretically there should be two definite relations between hepatic disorders and heart disease, one toxic and the other mechanical. Clinically, I have never observed either, and I do not know of any experiments along this line that lead anywhere.

Dr. James V. Freeman, Jacksonville, Florida: To my mind the most interesting phase of this subject is the inter-relationship between the heart and liver; I mean those acute changes in the upper abdomen which are, in reality, due to heart failure. If we stop to remember in connection with these cases that very frequently the heart may be the primary organ, we shall come to a better understanding. That is, we see acute attacks in the upper abdomen characterized by pain which lead oftentimes to the diagnosis of surgical conditions when in reality they are due to failure of the heart to carry on its circulation properly. I am sure we have met in our experience cases of this kind that presented the features of cholecystitis, cholelithiasis, ulcer, and even cancer. Such diagnoses have been made in these cases, but are not sustained by the subsequent behavior of the patient. I believe it to be a safe rule in considering the diagnosis of any condition which presents symptoms in the upper abdomen, that if there be at the same time any evidence whatever of impairment in cardiac function, the diagnosis had best remain in abeyance until we can see what can be accomplished with the cardiac condition. It rather seemed to me, as I listened to Dr. Brown's description of the condition, that when he was describing hepatitis with secondary changes in the heart it was perfectly easy to turn the picture around and say that we have a swollen, painful liver, and various disturbances that in reality were due to failure of the heart. I believe these cases will repay careful study. Our ideas certainly are not sufficiently definite to reach conclusions regarding them. I believe they form a rather large and most interesting group of cases.

Dr. E. C. Thrash, Atlanta, Georgia: In our study of the heart we direct our attention too much to the valves and overlook the musculature. There is no question but that there is a relation between the degenerative processes taking place in the liver and those of the musculature of the heart. These processes in the liver are more ap-

parent. The cells are destroyed from atrophic changes, and infiltration of fibrous tissue takes the place of these atrophied cells. In the heart we are inclined to overlook changes which are produced not infrequently in its musculature. A great many heart lesions are never observed during life. We find no apparent heart lesion, but if the heart structure is observed closely postmortem the musculature will be found at fault. The same toxins that produce atrophic changes in the liver cells will produce them in the musculature of the heart. If these atrophic changes do take place, we will get more or less insufficiency, and this insufficiency will naturally bring about dilatation, and dilatation will bring about naturally a relative insufficiency of the valves. This disturbance is not usually characterized so much by fibrous tissue, but there is an atrophic change which takes place in the muscle, while the muscle itself does not disappear. The liver cell disappears. The muscle fibre will remain but it is degenerated. It is toxic. It is not doing its duty. There are atrophic changes to be seen under the microscope, but they do not need to be supplanted by fibrous tissue, and therefore the casual observer will overlook them. We get this especially in reference to the muscle fibers which govern the heart. There are the highest differentiated muscle fibers of the body, and wherever there is a toxemia, the more highly differentiated cells suffer more than those of lower differentiation. Just as the functionating hepatic cell, the parenchyma cell will suffer more than the fibrous cell, and just as the neurone will suffer more than the neuroglia. We have neglected the heart very greatly in our study of diseases. We need to direct our attention more to it. We are lagging in this. We need to know more about the heart, not only whether there is a leak in a valve, but we should study its efficiency from the standpoint of its muscular activity as well, and also the relation of toxic disturbances to the musculature of the heart, as we have studied the relation of toxemia to the liver, kidney and other organs of this type, which is in the same class with the heart.

Dr. Alexander G. Brown, Richmond, Virginia (closing the discussion): I simply wish to add that there is a peculiar clinical association between the heart and the liver. I call attention to the early diagnostic value which we are going to get from the studies that are now being made on liver functions by the men who are working in laboratories, bringing out and trying to perfect some test which will give an idea as to the accuracy with which the liver is performing its functions. The liver has so many functions it is difficult to get any one agent to test its functional power. I believe clinically it cannot be disputed that there is a very decided inter-relation between the heart and certain liver conditions. It is seen in passive congestions. It is observed in acute hepatitis that the same toxic agents which produce the hepatitis may disable the cardiac muscle. It is also true in cirrhosis; the same poisons which can impair the hepatic cells also devitalize the muscular cells of the heart. These functional tests may be able to bring out these associations long before the gross physical signs are demonstrated, and in that way enable us to help the crippled liver and help also the heart.

SOME REASONS WHY OUR SOUTHERN PEDIATRISTS SHOULD ORGANIZE.

By Clarence A. Rhodes, A.B., M.D.,
Atlanta, Ga.

The time has arrived when the treatment of infants and children must be recognized as a distinct specialty and one which cannot be given the proper attention by the average general practitioner. This being the case, it behooves the Southern pediatrists to arouse themselves to the importance of their specialty and place it in the front rank along with the other specialties of medicine. There is but one way to accomplish this end, and that is by organizing a pediatric association or society of some kind whereby we may be brought together so as to formulate plans for carrying on our special work and studying in a systematic manner the problems which confront the Southern pediatrist.

The writer can conceive of no more auspicious time than the present for us to organize, and instead of forming a pediatric society as a separate organization, let us organize a Pediatric Section of the Southern Medical Association. Why? Simply because a pediatric society as a separate society could not exist in the South at the present time as there are not enough men specializing in this branch of medicine to support and maintain such an organization. But, by having a pediatric section of the Southern Medical Association, men of national and international reputation would join with us and thus add dignity and importance to such a section.

The Southern Medical Association has come to [illegible] well organized and on a sound basis, and stands pre-eminent for medical progress

*Read in Section on Medicine, Southern Medical Association, Eighth Annual Meeting, Richmond, Va., November 9-12, 1914

in the South. It has grown to such proportions that the various specialties are organized and sections being formed. So why not a pediatric section?

There is no specialty at the present time making such progress as pediatrics, and none of wider scope or of more importance. Is there a more important branch of medicine to the State or nation than that of caring for the infants and children? Is there anything of more fundamental importance to any State or nation than the welfare of its children? Is not the hope of our country locked up in these small and insignificant looking beings? Is it not the duty of organized medicine to spread the gospel of better care and more interest in the welfare of the infants and children of our land? Could the Southern Medical Association do a greater service to the cause of pediatrics than the establishment of a section for the study and promulgation of such a noble work?

Before we can hope to accomplish anything of importance in this field we must get together as a unit and work to place our specialty on the high plane it should occupy among the specialties. We have a fertile field the sod of which is practically unbroken by our Southern pediatrics. Location and local conditions give us, indeed, an enviable heritage for work and progress. Located, as we are, mainly in a semi-tropical climate, we have conditions and diseases peculiarly our own. I ask the question, are we making the effort we should to study and solve these problems?

Malaria with its various forms and complications offers much to the careful and studious pediatrist. Pellagra, the recent scourge of the South, must come in for its full share of study, research and investigation. It is the duty of the pediatrist to do his full share in the studying, and if possible, solving the cause of this malady. The problem of eradicating the hookworm is a comparatively new one and offers a field of special interest to the pediatrist, since so many children are infected. This is, indeed, a field in which great things can be accomplished for the children of the South.

As the pediatrist is not only a medical man but a sociologist as well, our factory and mill districts are regular storehouses of medical material for the industrial worker in this branch of medicine. There seems to be unlimited possibilities in this field for adding to our scientific knowledge of a wide range of disease and at the same time doing much good.

The poor have been divided into three classes: God's poor, the devil's poor and the poor devils. Dr. Henry I. Coit has aptly defined these classes, but as we only have one class to deal with in our mill districts we will use Dr. Coit's definition of this class—the devil's poor—which is as follows: "They are those who have reached poverty by their own deliberate transgression of physical and moral laws, they do not seem anxious to do better, and they are unable to take the initiative to escape from poverty without help. They are easily discouraged but with judicious application of the principles of true charity, which stimulates effort and self-help, this class finally do well and make good. It pays to assist them, and they and their families often become good and useful members of society." This is an excellent description of those who make up our mill class and who are termed by the Southern negro "poor white trash." The children of this class should appeal especially to the Southern pediatrist, because they are "bone of our bone and flesh of our flesh," not foreigners, as in other parts of our great country, but descendents from our "original stock." Does it not behoove us to rescue them from their self-destruction?

An illustration will suffice to show what can be accomplished with these people by proper care and attention. Two years ago I took charge of a clinic in one of the large mill districts of Atlanta. The clinic had been in existence for several years, but had made little advancement. With an earnest effort and interest in the welfare of these people, and the aid of an excellent Christian nurse we have

built up by far the best clinic in Atlanta, treating during the last year 5,400 patients. All the specialties are now represented on the staff, while our children's clinic is second to none. This instance is used to show what can be done and the number of individuals reached and benefited by those who care to do this kind of work.

The South is full of such mill districts which are regular gold mines to the progressive and hard-working pediatrist, who is not working solely for the "almighty dollar" and letting the children of our Southland go neglected.

The South, as other sections of our country, has its milk problem to solve. Having so few large cities, as compared to the East and West, there is no reason why we should not have the best milk on the market; most of our cities are so small that two deliveries could be made daily during the summer months. As it is, our milk supply is of an inferior quality and very little attention has been paid to this subject by those who should be most interested—I mean especially the physicians engaged in pediatric work. We have been contented to let the "political health departments" look after this important problem of obtaining pure milk for our babies. The health departments of our smaller cities have proved inefficient in taking care of the health of our children, owing to lack of funds and political control. We, as pediatrists, should wage a crusade for the betterment of existing conditions in the South and arouse the public to the responsibility that rests upon them as citizens.

Is it not time for the pediatrists of the South to organize and band ourselves together for progress along these lines. Let us cease to be known as "a dark spot on the map inhabited only by mosquitoes and negroes," due to our non-progressiveness.

The time has passed when work is no longer a disgrace or to mingle with the poor be degrading. If we want to take our stand along with the world's workers we must be up and doing. "The harvest truly is bounteous but the laborers are few," so let us pray for an organization that will send us out to gather in these precious sheaves for our state and nation.

602-3-4 *Atlanta National Bank Bldg.*

DISCUSSION.

Dr. McGuire Newton, Richmond, Va.: I see very little reason or excuse for discussing a paper so ably presented by Dr. Rhodes. We all realize, I think, the time has come when pediatrists should organize in some way; when pediatrists should work together for the advancement of their specialty. I personally am opposed to pediatric societies in the South for the reason I believe that there are already too many medical societies. The principal hope of the Southern Medical Association was that it would be able to eliminate a number of medical societies. There is no class of men more in need of attending medical meetings than pediatrists because their special work should embrace the whole field.

It has been suggested in various regions that we should organize or form pediatric societies. I believe the plan as outlined by Dr. Rhodes is a good one, and I shall do all in my power to favor it, namely, to organize a pediatric section in the Southern Medical Association, and as far as possible make an arrangement for a meeting of this section, so that its members may attend the surgical section and the medical section as well. I am convinced that nothing will do pediatrists in the South more harm than a section on pediatrics in the Southern Medical Association if the members confine themselves to attendance upon that particular pediatric meeting. I think it would be an advantage to all to attend the public health section, the surgical section, and the other sections, because the specialty of pediatrics certainly embraces all of them.

Dr. I. W. Faison, Charlotte, N. C.: Time is too short to speak at length upon this very important subject. Out of one hundred and seventy-five papers on the program for this meeting, there are only four directly related to pediatrics, and three indirectly. I do not think there are enough of us who would like to do as Dr. Rhodes has suggested, form a society for this purpose. There are not enough men for it. There are only eight to twelve men in the State of North Carolina who practice pediatrics as a specialty. How many there are in this and other states of the South I do not know, but the time is now at hand when something ought to be done to encourage those men to look after and bring about a condition for the betterment of children. Time and again I have preached the doctrine that if I had proper food and proper nourishment for three generations I could produce the grandest generation that ever lived on the face of the earth. Instead of that, we are having a degenerate race of little men, about five feet and two inches in height weighing about one hundred and twenty-five to one hundred and thirty-five pounds, instead of weighing as they should one hundred and eighty pounds.

We came to the meeting of the Southern Medical Association, and we must go to the Northern Pediatric Society, and to the pediatric section of the American Medical Association to get, from a pediatric standpoint, the information of enough value to warrant us in making such trips. The children need caring for. They need the attention and care of the medical profession more than any other class of patients. The members of the medical profession in my section of the country do not help the pediatrician as they should, but they hold on to their patients too long.

I wish that the gentleman from Augusta had been here to make a plea for the pediatrician and for the betterment of the condition of children. I know I cannot say to you what I would like to say in five minutes.

Dr. C. V. Stephenson, Centreville, Tenn.: We know the attendance at this hour is rather small considering the number of members in attendance. This may be due to different causes, chiefest of which, no doubt, is because of the interesting subjects coming before the surgical section this morning. It is likely that a number are visiting places of interest, historic or otherwise, in this grand old city. Others may be suffering from gastronomic disturbances and seeking the services of those specializing on the stomach, and kindred diseases. You know some doctors are very indulgent and cannot withstand temptation—and none are entirely immune from the evil effects of overeating. I refer to the most excellent reception given us last night by our worthy President.

Personally, I am opposed to creating a section on pediatrics, or any other new sections. I believe this to be the sentiment of all general practitioners who are members of this association, and more especially those from small towns and country places—such men as must do some of everything coming up in the general practice of medicine and surgery. I belong to this class, and no doubt a large part of the membership of this association do also—men, if you please, who need to hear what the specialists have to say, that we may be better able to treat intelligently, or properly advise those we are not able to treat successfully. I think that the specialists should be willing to read their papers before the general body; in this way we could become familiar with the work they are doing or are able to do, and thereby be able to select a man to whom we can send a patient whom we cannot care for ourselves. I am sure that we, as general practitioners, have had cases we would like to have seen under the care of a specialist.

We each need the other, for the specialist would not succeed were it not for the general practitioners who refer their cases to them—and sometimes help them (specialists) to lie when they make mistakes; for they are only men; and to console the patients when they are permitted to return home, generally pauperized and displeased with results. For there is generally a wise old "Dr. Knocker" in each community who, if he had been consulted, would have cured the case himself, or put them in the hands of a more competent man with whom he was acquainted, who would have done a better service for less money.

The general practitioner needs to know the specialist—to know that he is a capable and conscientious man, able to do what he proposes When we know these men, and know what to expect of them, it will be more pleasant to refer our patients to them. The only true way to know them is for them to come before such bodies as this, telling and showing what they are doing along their several lines.

I, too, doubt if the subject of pediatrics is receiving the attention it should, but, as already stated, I think it should be discussed in general sessions, for all doctors have more or less to do in treating children's diseases and deformities.

I believe so many sections will be undesirable to very many of our members—therefore, decreasing interest and membership. As a charter member of this association—and a long time member of the Tri-States of Alabama, Georgia and Tennessee, from which this association sprang—I should dislike very much to see the membership and attendance decreased, as I believe it would, because of the non-attractiveness to the present membership and to those not already members. How many of us care to attend meetings when we have to go from one building to another, or sometimes two or three blocks away, in order to attend the different sections? I have attended meetings when arrangements were even worse than such as I have just mentioned.

I think there should be no changes for the present, and certainly no criticism for any arrangements that have been made for this meeting, or for the committee on program. Neither should there be too severe criticism for the gentlemen who are not here to speak for themselves.

Dr. Lewis W. Elias, Asheville, N. C.: The importance of this subject cannot be doubted by anyone, but there is a widespread spirit of indifference to the whole thing. In looking over the handful of us present it is demonstrated that interest in pure pediatrics over the South is not normally developed. I had, to me, a rather interesting experience about two years ago in that regard. I endeavored to organize a pediatric society in Asheville. It died a speedy death from acute inanition. Then I tried to organize a state pediatric society. I went to the medical society that year with promises from many men who were especially enthusiastic over it. At the meeting, however, there was only one man present; he, I found afterwards, was a surgeon. I had a damper thrown on my enthusiasm in trying to organize pediatric societies. If we could organize a pediatric society, I do not think we would get much of a membership. I understand that there are only about a dozen men in the South who devote their time exclusively to pediatrics.

I do not believe in multiplying societies unless they do good. If there are enough men devoting themselves to pediatrics as a specialty, then something should be done to organize a section, or there should be a symposium prepared calling attention to the important things going on in pediatric centers and in pediatric work. That is the important thing to be done. If gotten together in some way it will be a help, and if some such

program can be arranged it will be an important step in the right direction. That is the only hope as I see it now, and I would certainly favor it. But to form another section or separate society now would neither create a demand nor supply a present need.

Dr. Clarence A. Rhodes, Atlanta, Ga. (closing): I am not in favor of a pediatric society as a distinct organization in the South, but I am in favor of organizing a pediatric section in the Southern Medical Association and believe within five years we will have it, and probably in less time.

I was much encouraged this morning when told by one of the officers of this association that if we could get fifty or sixty men who would promise to take enough interest in pediatrics to justify a section, one would be formed immediately.

I agree with one of the speakers that I do not believe in coming here and devoting all our time to pediatrics, because there are certain papers on medicine and surgery we want to hear, and as a rule, we go over the program and pick out those papers and attend that section while the paper is being read, so I cannot see that a pediatric section would work a hardship on anyone.

Dr. Elias has raised the question as to what constitutes a pediatrist, as so few men in the South devote their entire time to this branch of medicine. The same question could be asked as to what constitutes a surgeon. I do not doubt but that you could count all the surgeons on one hand who read papers at this meeting, who do nothing but surgery, still we have a surgical section and no one would have it otherwise, and I daresay, there are papers read at this meeting by surgeons who treat five babies and children to every operation they perform; hence, it is not necessary for a man to do only pediatrics to be interested in pediatrics or a pediatric section, but all those who treat babies and children.

If we all specialized, it would not be so hard to get started in our profession, but as it is, we have to do what we can in order to get a footing that will enable us to make ends meet.

I contend if we who are interested in pediatrics want a pediatric section, we can get it, but we will have to fight for it in order to prove the worthiness of our cause.

I was reared on the farm and was taught that when we wanted a crop in a hurry to use fertilizer and irrigation, and the same applies to having a pediatric section, if we want it, we must push for it all the time.

One of the speakers objects to a pediatric section because the general practitioner should know who is doing pediatric work and the only way for them to find out is for the pediatrist to read his paper before the general section on medicine. This, indeed is a good advertising scheme, but I fear it would not help pediatrics as a special branch of medicine, as we are confronted with problems that are foreign to a section on general medicine besides, I have never attended a medical meeting where a pediatric paper was given a prominent place on the program.

If two or six men who are interested in pediatrics would get together and formulate a plan of operation and enlist all those doing pediatric work in our ranks, we could soon have a section.

I am trying to improve the pediatric conditions in one of the large mill districts of Atlanta, but find it an uphill problem. If I had the co-operation of one or two men who are interested in the work, we could accomplish wonders.

I am indeed optimistic in regard to pediatrics in the South, and firmly believe that in the near future we will get together and organize a pediatric section in the Southern Medical Association.

AUTHORS' ABSTRACTS.

Medicine.

Periodic Examination of Supposedly Well Persons. By Eugene L. Fisk, New York, N. Y. Kentucky Medical Journal, February, 1915, pp. 108-115.

Dr. Fisk calls attention to present widespread recognition of the principle of periodic health examination. Leading insurance companies extending this privilege to policyholders. Employers of labor providing same service for their employes with the same purpose in view, namely, improving vitality and wellbeing.

The modern physician must be the custodian of individual and public health.

A thorough physical health survey. It must include the entire body—eyes, ears, nose, throat, nervous system, blood pressure, urine, teeth, gums, etc. Uniform standards are necessary for carrying on the work. Most people are more or less unfit, and this periodic survey is intended to enable them to improve their condition.

The Life Extension Institute provides this service for insurance companies, employers of labor, and individual subscribers. Results show need for this service.

Employes, at age of thirty, showed arterial thickening in thirteen per cent of cases. Urinary impairments, albumin, sugar casts—were found in thirty-five per cent; disturbance of blood pressure, twenty-five per cent; organic heart disease, five per cent. Only 3.14 per cent were found absolutely normal. Fifty-nine per cent were referred to physicians for treatment. More than ninety per cent were not aware of any impairment. Similar percentages were found among many thousands of policyholders who took these health examinations.

The co-operation of the family physician is of the greatest importance. Cases referred to him should receive careful attention as to their general manner of living, even though no organic disease be present.

The Life Extension Institute refers impaired cases to the family physician or to such physician as the patient may designate.

Hematuria and Its Possible Significance. By Ferdinand C. Walsh, San Antonio, Texas. New Orleans Medical and Surgical Journal, January, 1915, pp. 631-634.

Walsh emphasizes the absolute necessity for a cystoscopic examination, including catheterization of the ureters, in all cases of hematuria. Much stress is laid on the possibility of error in making a diagnosis from the usually looked-for symp-

toms, particularly regarding pain. It is to be remembered that from 15 to 20 per cent of the cases of renal tuberculosis present symptomless hematuria as the first manifestation of this condition, and it is also to be borne in mind that the majority of renal neoplasms show an intermittent form of bleeding, with, or without, the presence of pain. The import of the paper is, in the main, to call attention to the fact that all hematurias are indicative of serious conditions, and that no time should be lost in determining the source and cause of the bleeding.

Institutional Mortality of the New-Born. A Report of Ten Thousand Consecutive Births at the Sloane Hospital for Women, New York. By L. Emmett Holt and Ellen C. Babbitt, New York, N. Y. Journal of the American Medical Association, January 23, 1915, pp. 287-290.

The paper reports on infant mortality at The Sloane Hospital for Women, New York, for six and a half years, covering 10,000 confinements. There were 253 abortions, 429 still births, 9,318 living births.

It discusses the causes of death during the first fourteen days of life, this being the regular day of discharge.

Total deaths in first fourteen days were 291, or three per cent of the living births; for half this number prematurity was responsible.

Forty-eight per cent of total deaths and sixty-six per cent due to prematurity occurred on the first day. (140 deaths occurred on the first day.)

Accidents of labor were responsible for thirty-eight deaths and sepsis for nine.

The most frequent causes of still births were toxaemia of pregnancy, prolonged, difficult or complicated labor and syphilis.

Congenital weakness and atelectasis caused fifty-eight per cent of total deaths.

Conditions connected with delivery—accidents of labor, hemorrhage, sepsis and asphyxia—together caused twenty per cent of deaths.

Malformations and congenital diseases other than syphilis caused four per cent and syphilis four per cent.

The only important diseases developing after birth was pneumonia.

Still births must be reckoned as one of the large problems in infant mortality; they are one and a half times as many as the deaths from all causes during the first two weeks. Except for the larger role played by syphilis, the causes of still birth in no way differ from those which produce death during the first days of life.

Posture of the Human Body: Its Relation to Health and Efficiency. By Fred G. Hodgson, Atlanta, Ga. Journal of the Medical Association of Georgia, December, 1914, pp. 234-236.

This article deals with the importance of proper carriage and use of the body. Walking and standing with head erect, shoulders back, chest high and abdominal walls held firmly in. This is the natural and habitual pose of the well-developed and muscular individual. This is contrasted with the bad posture of stoop shoulders, flat chest and protruberant abdomen. The human body is compared to a machine. The machine can not run well, develops friction, and wastes energy unless all its parts are in proper balance and in good running order. So the human machine cannot be efficient unless the lungs can be properly aerated and the abdominal organs are held in their proper place.

Many ills, such as visceroptosis and its many consequences, constipation, so-called "bilious attacks," abdominal pains, neurasthenia, backaches, occipital headaches, may in numerous cases be traced to bad posture and muscular strain.

The best treatment is the prophylactic; that is, by taking the young and growing child and giving him properly supervised gymnastic training. Developing the muscles which are of most importance. Also avoiding all those things which tend to develop bad posture, such as too long hours indoors or in schools, unsuitable desks and chairs, and removing any obstruction to free breathing, such as enlarged tonsils or adenoids.

This article was followed by a series of moving pictures showing a child taking exercises to develop muscles and maintain proper posture.

Persistent Glycosuria a Symptom of Functional Liver Failure From Focal Infection. By Ernest F. King, Washington, D. C. Washington Medical Annals, Washington, D. C., January, 1915, pp. 30-38.

The author reports the case of a glycosuric whose sugar disappeared after the extraction of a tooth with large root abscess, a prostatic with sugar whose urine cleared up after the exhibition of hexamethylenamine and the same result from this drug in a case of stomach indigestion. He cites many reported cases in which sugar disappeared from the urine after cures of tonsillitis, pneumonia, cholecystitis, prostatitis, cystitis, typhoid fever, acne and other diseases in which some bacterial infection was present. He calls attention to the so-called "diabetes conjugalis," and to the many cures reported following the use of mechanical and chemical means, such as flushing out the stomach and intestines and surgical interference, and by the use of intestinal antiseptics, and quotes Kinyoun as suggesting that the favorite remedy, opium, may owe its efficacy to a bactericide formed by its combination with some of the fluids of the body.

From a consideration of the cases and facts presented the author is led to the conclusion that all cases of persistent glycosuria are caused by the action of bacterial toxins on the glycogen-storing capacity of the liver, lowering this so that the dextrose resulting from digestion passes directly through the liver into the general circulation, thus causing a hyperglycaemia, a condition that is always present when sugar persists in the urine.

The treatment indicated is to remove the source of infection by one of the means mentioned above. The lactic acid bacillus and vaccines may help.

Ephemeral glycosuria, including the alimentary, traumatic and toxic forms, do not call for treatment.

Pancreatic lesions are coincidences, perhaps, from the same cause.

The Physician and the Drug Habit. By Chas. W. Fisk, Kingfisher, Okla. Journal of the Oklahoma State Medical Association, January, 1915, pp. 252-257.

We are using a greater amount of opium per capita than any other country, not even excepting China. We are consuming more than all Europe combined, the estimate being based on customs receipts. There is no nation that can compare with us in the amount of cocaine consumed.

It is useless to speculate upon the causes of our reckless drugging. That as a profession we have been criminally careless is not capable of demonstration.

The extent of drug addiction is appalling. Aside from its prevalence among the lower and criminal classes it is estimated on good authority that ten per cent of practicing physicians are addicted to some drug habit.

It behooves us as good citizens to be alive to the dangers of this rapidly spreading evil. State laws do not effectively restrict. The Boylan bill of New York will simply force the traffic into underground channels. A national law is needed. When the Harrison bill comes up in Congress the National Association for the Preservation of Medical Freedom will be on hand to defeat it.

The time will come when the lives and safety of the public will be entrusted to us by placing the habit-forming drugs in our care as custodians of the state. When this responsibility is placed upon us, we as good citizens will guard it with jealous care. I believe the medical profession of this nation, and of our own state, will measure up to the stature of manhood.

The Importance Attached to All Hysterical Manifestations. By G. H. Moody, San Antonio, Texas. Pan-American Surgical and Medical Journal, January, 1915, pp. 7-9.

Major Hysteria is a rare disease, but is not made an important part of this discussion. On the other hand, hysterical manifestations in some mild or remote expression are things of almost daily observation, and, consequently, merit much consideration. The importance of the psychic element in hysteria is greatest, there being present marked cerebral insufficiency and consequent reduction in cortical function. The causes include all asthenic conditions, whether inherited or acquired, whereby the cortical integrity be- [illegible] such lack of control as to render him unable to harmonize himself in consciousness. Mild mani- [illegible] power of concentration and attention, vascillat- [illegible] trol, uncertainty and weakness of memory, etc., with attending inconsistencies and inaccuracies in statements, actions and conduct. They should be recognized early and their great importance adequately appreciated by every practitioner, because of the serious consequences to which they lead. It must be appreciated, too, that the prognosis is generally quite favorable, provided the patient can be placed in favorable environments, all under a general plan of management and treatment sufficiently broad in experience and equipments and sufficiently flexible in detail and adaptability to meet the demand of the individual case.

The Effect of Direct Rays of the Sun on Experimental Tuberculosis. By David C. Twichell, Albuequerque, New Mexico. New Mexico Medical Journal, January, 1915, pp. 124-128.

The work of Rollier in the cure of surgical tuberculosis by exposure to the sun's rays and the well-known germicidal effect of the direct rays of the sun on the tubercle bacillus suggested this study of the effect of the direct rays of the sun on the tubercle bacillus in the living organism. Into the subcutaneous tissue of the backs of ten guinea pigs a measured quantity of a suspension of living tubercle bacilli was injected. The backs of the pigs were kept shaved. In a few days subcutaneous abscesses developed at the site of injection. The pigs were now divided into two groups and kept out of doors in cages, so constructed that the direct rays of the sun could not strike the animals. Five of the guinea pigs were constantly kept in one of the cages. The other five for twenty-eight days were each day for two periods of one-half hour each placed so that the direct rays of the sun were full upon their backs.

The abscesses in the sun-treated pigs were less extensive, pointed more promptly and apparently healed more promptly than in the control animals. All of both groups ultiamtely developed enlarged inguinal glands and generalized tuberculosis, but with one excetion this was less extensive in the sun-treated animals.

Report of Human Case of Glanders. By Leon Ashley Peek, West Palm Beach, Fla. Journal of the Florida State Medical Association, January, 1915, pp. 199, 200.

This is a report of mulatto man, good personal and family history, who contracted glanders from an accidental bite by an infected horse on forefinger. The case was treated by administration of glanders vaccine furnished by Dr. Wm. H. Park, of New York City, and while the patient was not under the best control, the result was a complete recovery.

The patient's recovery leads the author to recommend that this treatment should be tried in all human cases of glanders, even by force if necessary. He also suggests its trial in cases occurring in valuable animals.

TROPICAL DISEASES AND PUBLIC HEALTH

THE SYMPTOMATOLOGY, ETIOLOGY, PATHOLOGY AND TREATMENT OF PELLAGRA.

By J. Clarence Johnson, M.D.,
Professor Gastro-Enterology, Atlanta Medical College, Atlanta, Ga.

In July, 1911, in a paper entitled "Is Pellagra a Disease Primarily of the Alimentary Tract?" we published (The Southern Medical Journal) a report of a number of cases with special reference to laboratory and clinical data. From separate paragraphs of this paper we extract three sentences: "Without question the absence of hydrochloric acid is an important feature of the disease, not essential to the development, not determining its course, but significant of its gravity and prognostic of its results." Another sentence read thus: "The disease is distinctly one of perverted metabolism, having its first expression in the epithelial structures of the alimentary tract." The last is: "The diet is milk and eggs."

We did not then have time or space to discuss at length these statements, but based them, as we said, "On the competent evidence which the cases themselves presented."

Since the publication of this paper the results of our laboratory investigations have been corroborated by Meyer and Fine, while Siler, Garrison and McNeal, of the Public Health Service Commission, and others have expressed views similar to our own regarding the nature of the disease. The report of the commission we refer to especially, not only because of the great value of their observation, but because of the publicity and authenticity which attaches to any effort or movement which bears the stamp of government approval. For these reasons, also, it should have serious and careful consideration. The fact that so many are now coming to view the disease in this light renders the theory pregnant with possibilities, and demands great caution in carrying it into actual practice. Some have preferred the term "nutrition" to "metabolism," which we employed. But nutrition is not comprehensive enough to satisfy the demands of a physiological and pathological definition of the morbid processes in pellagra.

However, it is not our purpose to raise an issue on this point. We simply wish to complete a task long deferred and present in a practical and more elaborate way the scientific facts upon which our statements were based, and in their further discussion attempt to reach a logical conclusion as to the cause of the disease.

I wish to acknowledge in this connection the valuable assistance of my associates, Dr. N. Joe Newsom and Dr. J. B. Fitts, in collecting the laboratory and clinical data which soon follows:

SYMPTOMS IN PELLAGRA.

It has been our purpose to gather facts which may be of some service to any who may by their own initiative feel inclined to use them. We have thought it advisable first to give a summary of the symptoms which have been made from records of fifty cases of pellagra in our private practice. This will also represent very faithfully the symptoms found in other cases which are not counted in the list, as well as those which have been seen in patients not our own. In this table no symptom, subjective or objective, is omitted. There is a difference between symptoms *in* pellagra and symptoms *of* pellagra. It may be noticed that hardly one will appear that is not sometimes found in some other disease.

This does not, however, lessen the value of any single symptom, though as diagnostic of pellagra it may have only relative significance.

Further comment bearing upon this is reserved for a later and more profitable connection. For the present we wish simply to anticipate the purpose which we have in the arrangement of the table.

A casual glance will show that ready reference may be made to any symptom in its class and order of frequency. By this we hope at least to indicate a direct and comprehensive way of studying the disease.

For convenience we will divide the symptoms into those referred to the alimentary tract, the nervous system and the skin. Those of the alimentary tract we will subdivide into the mouth, stomach and intestines, as follows:

	Mouth.	
Subjective—		
	Scalded sensation	4 per cent.
	Burning sensation	2 per cent.
	Soreness	60 per cent.
Objective—		
	Desquamation	10 per cent.
	Redness of the tongue	46 per cent.
	Fissured tongue	8 per cent.
	Membraneous sore mouth	12 per cent.
	Profuse secretion of saliva	14 per cent.

This tabulation would have little meaning if we separated it from the other tables, but in its proper place and with proper consideration it is both striking and instructive. A patient often complains of only one of these symptoms, while he has evidence of others; or will complain of several while there is objective evidence of none; but the fact remains that in not one single case recorded is there an absence of some symptom referred to the buccal cavity. These symptoms are not so consistently found in any other disease, nor in the same variety.

The next point which we wish to emphasize is that the history of the symptoms corresponds very closely with the history of the symptoms referred to the skin, not in order of sequence, nor in relation to the general condition of the body, but in relation to each other, and more so to the history of the symptoms referred to the stomach, and are more consistently associated each with certain conditions in the stomach. Especially is this true with membranous sore mouth and the absence of hydrochloric acid in the gastric contents. No patient having hydrochloric acid has developed this form of sore mouth, and 60 per cent of those who had sore mouth in the mildest form had no hydrochloric acid in the gastric contents.

In 60 per cent of those whose tongues were red there was an absence of hydrochloric acid in the gastric contents. In those who had exfoliation of epithelium of the tongue, 50 per cent had no hydrochloric acid.

In 50 per cent of those with fissured tongue, hydrochloric acid was absent.

SYMPTOMS REFERRED TO STOMACH.

Subjective—		
	Fullness	54 per cent.
	Belching	40 per cent.
	Burning	52 per cent.
	Nausea	34 per cent.
	Vomiting	12 per cent.
	Soreness	30 per cent.
	Anorexia	26 per cent.
	Pain	24 per cent.
Objective—		
	Normal position	64 per cent.
	Ptosis	30 per cent.
	Atony	10 per cent.
	Ulcer	2 per cent.
	Catarrhal gastritis	8 per cent.
	Hydrochloric acid absent	58 per cent.

Of those whose stomachs were in normal position, 66 per cent had no hydrochloric acid.

Of those with ptosis of the stomach, 50 per cent had hydrochloric acid.

Of those with atony of the stomach, 66 2-3 per cent had hydrochloric acid.

First let us notice that hydrochloric acid is absent in 58 per cent of the cases. In 10 per cent of these there was no rennin.

In our previous paper the table showed hydrochloric acid absent in 75 per cent of the cases reported. This difference is doubtless due to the fact that in the previous table records were taken from a larger proportion of hospital cases, in which the disease had more

fully developed or had developed with greater severity. From the above calculations it appears that the position of the stomach and its muscular tone had little to do with the presence or absence of hydrochloric acid, and that this phenomenon cannot be attributed to a general atrophic process.

Of those with gastric catarrh, 50 per cent had hydrochloric acid minus. The patients with ulcer had hydrochloric acid plus.

Of those having pain in the stomach, 66 2-3 per cent had hydrochloric acid. Of those having burning of the stomach, 55 per cent had hydrochloric acid plus.

Again it appears that the presence or absence of hydrochloric acid has very little to do with the sensations referred to the stomach. This idea is supported by the fact that the patient having the highest free acid did not complain of burning or pain. We do not mean to intimate that all patients having high acid have at the same time burning and pain —we all know that this is not true—but what we mean to suggest is that the burning and pain are not dependent upon the acid in these cases. Only 15 per cent of those having vomiting had hydrochloric acid. Of those with anorexia, 68 per cent had no hydrochloric acid.

There was a return of hydrochloric acid in 2 per cent. After the first examination hydrochloric acid disappeared in 4 per cent.

Thirty-six per cent of the patients had artificial teeth.

Symptoms referred to the Intestines.

These include:	per cent.
Diarrhoea	36
Constipation	42
Alternate constipation and diarrhoea	4
Cramps	10
Amoeba	none
Uncinaria	none
Those having diarrhoea with HCl	14
Those having diarrhoea with absence HCl	50
Bowels regular with absence HCl	10
Constipation with absence HCl	6
Alternate constipation and diarrhoea with HCl	2

Thus it is seen that while neither the presence or absence of hydrochloric acid controls the occurrence of diarrhoea in those who have it, 50 per cent have no hydrochloric acid.

When our former report was published, Dr. Bass, of New Orleans, wrote, calling our attention to the frequent presence of amoeba in pellagra and suggested further details in examination of the feces in these cases. Appreciating the importance of this suggestion, we have elaborated somewhat our method of investigation, but because of the difficulties of securing suitable and repeated specimens of the feces, and also probably because of the section from which our cases have come, or possibly from some defect in technique, we have not been able to change the status of our former report with regard to amoeba.

There is a notable absence of hookworm in our examination of the feces. This probably is in great part due to our patients being almost exclusively adults, and of a class in which hookworm is rarely found.

Dr. George Trimble, of East Point, Ga., gives an interesting account of cases under his care of the children at the Georgia Baptist Orphans' Home. In this report (*Journal Record of Medicine,* October 14, 1914), he shows a large percentage of cases with hookworm.

Having had opportunity to examine a large number of these cases with Dr. Trimble, we were impressed by the thoroughness of his work and appreciate the importance of his published report.

LABORATORY DATA.

The highest haemoglobin was 90 per cent. The lowest was 45 per cent. In the patient having the highest there was hydrochloric acid present, and in the patient having the lowest there was no hydrochloric acid. In the presence of hydrochloric acid the lowest haemoglobin was 60 per cent. In the absence of hydrochloric acid the highest haemoglobin was 85 per cent. Thus it appears that the presence and absence of hydrochloric acid does not determine the haemoglobin percentage.

Ten per cent of cases had malaria, and in

only one of these was there hydrochloric acid present in gastric contents.

The lowest blood pressure was 95 m.m.; this patient had no hydrochloric acid. The highest blood pressure was 165 m.m.; this patient had no hydrochloric acid, but had albuminuria. The next highest blood pressure was 155 m.m., aged 34, there being no hydrochloric acid and no albuminuria.

Six per cent had albumin in the urine. Seventy-five per cent of these had no hydrochloric acid.

Fifteen per cent had indicanuria. In 60 per cent of these it was severe. In 60 per cent of all having indicanuria there was no hydrochloric acid.

In 16 per cent the specific gravity of the urine was below 1010. In neither of these was there albuminuria; 50 per cent of this number had an absence of hydrochloric acid.

There is nothing in the amount of urine passed and in the character of the same that cannot be explained by the condition of the alimentary tract, and kidneys and personal habits of each patient.

Symptoms Referred to the Nervous System.

	per cent.
Nervous	74
Dizziness	76
Burning hands and feet	62
Pain and aching back	26
Pain, neck	4
Pain, sternum	4
Pain, shoulders	26
Pain, lateral region	12
Pain, [illegible] region	14
Pain epigastrium	24
Numbness	4
Cold sensations	8
Burning sensation	6
Choking sensation	34
Depression and sluggishness	28
Insanity	4
Reflexes exaggerated	16
Reflexes negative	8

The difference between a symptom referred to the nervous system and a diseased condition of the nervous system is not overlooked and we also have in mind the additional fact that there can be no subjective symptom without the agency of the nerves. It is easy to see in pellagra a deeper primary involvement of the nervous system than really exists. We have hardly been able to avoid this error in our consideration of the pathology of the disease. It is the more consistent and permanent symptoms which have most significance: those which are not dependent for their occurrence or disappearance upon the functional activity or rest of any organ. These have their origin in the nerves themselves and are coincident with general tissue change. Neither is it forgotten that a symptom arising from any organ while at work may be exaggerated as a result of the increased susceptibility which follows a disturbance of vital equilibrium. The table shows that of the fifteen symptoms referred to the nervous system, more than 50 per cent were present in 33 1-3 per cent of the patients; and that a little less than 33 1-3 per cent were present in 50 per cent of the cases. Seventy-five per cent of the patients have 25 per cent of all the symptoms. The symptom most commonly found was dizziness or vertigo. Very few had actual vertigo, so we can consider this percentage as dizziness alone. In trying to explain the presence and the frequency of dizziness we considered the various causes from which it may arise, such as disturbance in the semicircular canal, astigmatism, abnormal blood pressure in the abdominal cavity, lack of proper anatomical relation of abdominal organs, indicanuria, muscular weakness, disturbance of vital equilibrium, central lesion of the nervous system. When either of these conditions existed it was reasonable to suppose that the dizziness was emphasized by it.

Thirty-four per cent of the cases complained of uncomfortable sensations in the eyes. Two per cent of these wore glasses regularly. One of these was 70 years old, and the trouble with his eyes was doubtless attributable to age. Others may have had astigmatism. Of course only an examination by a competent oculist could have determined how much or little refraction had to do with this symptom, and

even then it would be impossible to say with certainty whether or not any abnormality found did not exist before the development of pellagra.

Six per cent of the cases complained of vague sensations about the ears, but in none was there objective evidence of trouble. Four per cent had violent headaches. In others there was occasional mention of transitory pains about the head. Forty per cent complained of inability to sleep well.

In 22 per cent of those who had dizziness, hydrochloric acid was absent. Thirty-two per cent of them had ptosis of the stomach. In 10 per cent it was associated with pain. So nearly allied in the count with dizziness is nervousness that one was doubtless due in part to the other.

Nevertheless, the fact remains that as a resultant expression of a general condition dizziness stands prominent and very suggestive. Certainly none of the conditions named above in association with it are sufficiently frequent, apart from pellagra, to account for its presence in such a large number as the table shows.

Nervousness is so vague in character and varying in its manifestations, and depends so much upon personal equation, that it is impossible to give it proper place or importance in the count. Apart from its association it would mean very little, but taken with other symptoms of the disease, its diagnostic value is increased and it also adds to the significance of other symptoms referred to the nervous system.

The next most common symptom is burning, present in 60 per cent of the cases. This is not confined to any part of the body, but is most frequent in the hands and feet. This burning is sometimes severe and persistent, and often it is as annoying after the eruption has disappeared as when it is active and occurs in areas where there is no eruption. Sometimes it attacks a single spot, as on the cheek or thigh, when the remainder of the body is free.

Next in order of frequency is depression and mental sluggishness, 28 per cent; 6 per cent of these had no hydrochloric acid. This depression and sluggishness is constant in some. In others it comes and goes, and it is distinct from that state which should be described as mental aberration. Every one complained of pain of some sort. This is a very interesting symptom to the patients and is often very troublesome. The pain in the sternum and shoulders is very striking and has, we think, more than usual interest as an accompaniment of the disease.

We often find these pains in certain conditions of the alimentary tract, but here they exist in the absence of these conditions as much as they do with them. There are some, very few, who show little disturbance of the nervous system. They are cheerful, confident, free from hesitation, and have normal interests in affairs which concern others as well as themselves. There are others who with the first objective evidence of their disease pass under a cloud, as it were, and there remain until the end of their suffering by recovery or death. This, too, is one of the most difficult obstacles to overcome. Despite the counter efforts of physician and friends, the disease woos them with reminders of its power and holds them subject to disturbing vagaries and uncertain apprehensions. It is at all times difficult to detach their consciousness from the presence of their ailment or divert their minds from its nature. So dominant and so emphatic is this feature in some that it seems to absorb the patient's personality and leaves no privilege or capacity for the self-assertion which usually remains in other diseases of equal gravity. The general attitude and movements, lack of outward concern, all bespeak a helplessness and hopelessness which looks upon the abomination of desolation. We cannot always measure accurately the significance of this symptom, for its proportions are not governed by the actual value of the vital functions. There are some who are bright, at times bouyant, but their cheerfulness is abnormal and rests in absolute depend-

ence upon the attending physician and encouragement of friends. They cling to every promise and derive much of their strength from expectation. They are usually intelligent and responsive to reason and ready for that which promises good for them. Many suffer from injured pride because of the nature of their affliction. They have a sense of being reduced to a class. This is encouraged by their knowledge of the attitude of the public toward the disease. They see the dread of those with whom they come in contact, and shrink within themselves. This adds to their depression and multiplies their difficulties.

Another, and unusual type of mental obliquity, is periodical lapses of memory—brief but complete.

Some have lost the sense of location, while otherwise free from mental disturbance. Others have shown sexual perversion, and some have been obsessed with religious fancy. We have heard of suicidal and homicidal mania and of those who take fiendish delight in violating the most sacred habits of their lives. We have had no observation of these. But we have seen enough of the unusual and the unexpected in pellagra to credit the possibility of any happening which has its final impulse in the nervous system. We have witnessed the delirium of drunkards, the ravings of those demented from other causes, but in none have we found the variety and intensity which characterizes these symptoms in pellagra.

We have watched insanity as a closing act in the tragedy of the disease with a sense engendered by the scene, as if an evil spirit was struggling to release itself from the ruin it had wrought. It mocks at all resistance and defiant, dies the victim of its handiwork.

We claim no first-hand knowledge of the morbid anatomy of the nervous system in pellagra and will not attempt more than a brief reference to it here. We have been interested in the various reports following autopsies, and do not doubt that investigations in this particular field will eventually prove fruitful of much good. The negative as well as the positive findings will be instructive and suggestive. But as yet, so far as we know, nothing which can be put to practical use in elucidating the nature of the disease, nor in the way of treatment, has been discovered.

We would, however, urge that only those who have been engaged in this particular work of post mortems are entitled to speak with authority as to the positive changes which do occur in pellagra. Others may with fairness exercise the right to interpret these findings. We believe that much of the apparent histological change which has been described as present and credited as a part, product and pathognomonic of the disease, can with equal precision and reason be explained as a result of the general perversion of metabolism. In life there is no peculiar symptom which may be ascribed to these changes defined in post mortem investigations which cannot as well be traced to conditions which not only are possible in the development of the various morbid processes incident to pellagra, but which exist apart from pellagra. Evidences of degeneration are expected to follow a continual lack of vital balance from any cause. Suboxidation is inevitable when cellular activity suffers from insufficient pabulum, whether that insufficiency results from a primary perversion of metabolism, indigestion or food imperfect in quality. The nerve tissues naturally share with other tissues in the fat infiltration or degeneration which is thus brought about.

THE ERUPTION IN PELLAGRA.

There are very few physicians who are not now familiar with the general characteristics of the eruption in pellagra. It is therefore unnecessary to dwell on this feature of the disease. Following is the description given in our previous paper:

The symptom upon which the diagnosis is usually based is the eruption. This, in nearly all cases, appears on the dorsal surface of the hands and the forearms, beginning at the base of the first phalanx and extending half way to

the elbow, or entirely so. I have seen a few cases in which the eruption was confined to the palmar surface of the hand in the form of blackened fissures. On the leg it begins at the ankle and extends half way to the knee. The eruption is symmetrical, with well-defined borders varying from simple redness to blebs and erosions, leaving, when it disappears, a smooth, velvety skin. When there is no distinct eruption there is often a deposit of brownish pigment. This, as well as the typical dermatitis, sometimes develops on the face, chiefly on the forehead and cheeks.

During the winter the eruption grows markedly less, but never entirely disappears. The following spring it assumes its usual characteristics, being more or less severe.

Nothing need be added to this. Further on we will make special comment on its relation to the other features of the disease.

GENERAL CONSIDERATIONS.

We have noticed that of the women with pellagra quite a number have irregular menstruation. In some there is entire absence. With improvement it may return, but this has not always happened. The occurrence of pregnancy is an exception; twelve per cent of the cases developed soon after pregnancy. Only with time can it be determined what the ultimate effect of pellagra will be on the reproductive functions—and on the offspring. In those who have membranous sore mouth the same process often develops in the vagina or on the vulva. Or there may be only soreness or itching turgescence and tenesmus. These are very distressing when they occur.

Tuberculosis has been present in only one case of pellagra which we have seen, though sixteen per cent of the number here reported had a persistent cough. Four per cent of the cases developed soon after operation; four per cent followed gall bladder symptoms.

Twenty-four per cent of the patients had eaten largely of corn meal for several years. Eighteen per cent of them lived not far from a branch or swamp. In four per cent there was a history of another case of pellagra in the immediate family. There was a definite history of pre-existing indigestion in sixty-four per cent. There has been a recurrence in one, two, three or four years in twenty-two per cent. In none of these have the symptoms and conditions approached in severity those present during the first attacks, or rather in the onset of the disease.

In those who appear to be entirely well there is no appreciable difference in their vitality now and that before the attack. Four per cent of the cases developed insanity. None of these had free hydrochloric acid in the gastric contents. Each of these died within a short while after the first symptom of insanity. Those who exhibited milder types of mental aberration all had free hydrochloric acid in gastric contents. None of these have died.

The total mortality has been eight per cent. Of course, there may have been relapses with fatal ending of which we have no account. But we are informed concerning the present condition of a large number.

In each patient who had died under observation there was a total absence of hydrochloric acid in the stomach. Each of these had membranous sore mouth with salivation, and diarrhoea was a prominent feature. In each there was marked myasthenia-cardia and death was either sudden or followed rapid development of the moribund state.

WHAT IS PELLAGRA?

There is no doubt that pellagra is a peculiar disease. It is more peculiar as a disease than its type is peculiar. It is possible that we have been diverted from a true definition of its nature because of this singularity. I believe that we have set for ourselves too hard a task in our previous study of its etiology and pathology. The difficulty, perhaps, has arisen not so much from looking at one or more phases to the neglect of others, as from overlooking one in particular.

Let us consider first the circumstances in which the disease most prevails, viz., prisons,

asylums, orphanages and mill communities. It is evident that there is something about these institutions, or in the inmates, which does not exist to the same extent, or which is less effective in operation in other places of segregation, such as armies, navies, schools and tenement houses.

First, what is there in common to prisons, asylums, and orphanages besides segregation? In each there is a kindred system of control and a measure of restraint. Each inmate profits or loses as his nature or his needs harmonize with the system of which he forms a part. The social status and relation of them all is fixed by their surroundings, and they have little exercise of choice in anything which concerns them.

Next, what is there in common among the inmates themselves in these institutions? They all carry with them when they enter a condition which is not a part of natural life. Prisoners a kindred state of mental, moral and, often, physical depravity; the insane a lack of co-ordination, a fanciful environment, and perhaps some functional or organic disease either causative or the result of their insanity; inmates of orphanages that impairment which follows denial of advantages which children of their age are wont to have for normal growth and development.

Members of mill communities do not change their habits or their methods of living when they join the community. They simply add to the collection and condensation of their kind.

The fact that those having pellagra in prisons, asylums, orphanages and mill communities did not develop it before they entered does not preclude the possibilty that they might have developed it had they remained in their former surroundings. We cannot explain the occurrence of the disease in these institutions on the basis of pre-existing conditions of the members alone, nor can we explain it on the conditions common to the institutions alone.

What is the difference between a mill community of today and one of fifteen years ago? It is true that some yet lack proper sewerage and the drinking water is not the best, but it is hardly probable that any have escaped all the benefits of enlightened science and better knowledge of the laws of health. What difference is there between one mill community and another of today?

What difference is there between criminals of today and those of twenty years ago, and what in prisons, and between one prison and another now?

What condition can exist in insane asylums and orphanages today which did not exist twenty years ago?

It is obvious that some difference does exist either in these institutions, in their inmates or their surroundings unless pellagra is infectious.

But pellagra occurs and more or less prevails in the country, in towns and in cities; in closely crowded districts and in homes set widely apart; in the poor and in the rich.

What, then, are people doing today which they did not do twenty years ago? What are they leaving undone which they did? If it is here insisted that the disease is not of recent appearance in the South, what causes its greater prevalence now?

If it is infectious, what was the specific agent doing twenty years ago, and if the disease has existed more than twenty years, what has added to the propensities and powers of the infectious agent, or what has so changed conditions as to remove the barrier of immunity which before existed? Be the cause of pellagra what it may, all of these questions must be answered before we have a comprehensive view of the disease.

Dr. Goldberger, in his most excellent and instructive paper read before the 1914 session of the Southern Medical Association at Richmond, described instances of pellagra in orphanages in this section of the South. He advanced the idea that these children were suffering chiefly from lack of proteid balance. He asserts that this insufficiency was corrected or largely amended by putting them on a diet composed principally of milk and

eggs—that improvement folowed promptly and that other cases did not develop. At the same time, Dr. Goldberger did not express much confidence in drugs for pellagra.

In several particulars his views accord with our own already quoted, but we cannot agree with him in some essentials which we consider vital. We feel that this question involves too much and is of too serious concern, especially to this section of our country, to accept fully and finally even from so high an authority a verdict which may be so far-reaching in its effects. Our experience with pellagra does not confirm the opinion that it is purely a nutritional disease. Neither does the intimate pathology and clinical history of the disease warrant the universal adoption of this view. Drugs have as much value in pellagra as they have in any disease and are as clearly indicated, and there are certain drugs more effective than others, as we will attempt to show.

An effort to prove that errors in diet are directly responsible for pellagra, or that any special diet will prevent or cure it, cannot be successful. In a few isolated cases diet may appear to be a determining factor in its production, and a special diet may be beneficial in the treatment.

But many who are using the most appropriate food are developing, and some of them are dying of pellagra. And many will yet develop it and die of it until we have a more comprehensive knowledge of its etiology and pathology and apply this knowledge to the needs of each particular patient. Having had ample opportunity to demonstrate the truth of the assertion, we wish to make it not boldly, but with confidence.

There will be fewer cases of pellagra and less mortality if we pay more attention to conditions and hesitate less because of our uncertain knowledge of the cause.

The value of a food depends not alone upon the amount and proportion of proteids, carbohydrates and fats it contains, but upon its digestibility, the readiness of the digestive organs to reduce it to proper form and the power of the body to appropriate it for repair and the exercise of its functions. Certainly that food or combination of foods which is easiest of digestion and which at a particular time furnishes most nearly the material which will restore and maintain vital balance is indicated in the treatment of pellagra or any other disease. In appreciation of this fact, in the paper referred to already, we made the statement: *the diet is milk and eggs.* We did not mean that the diet was limited to milk and eggs or that nothing more was needed. In these we have a ready means of support to digestion and metabolism, a bridge to span the chasm which in pellagra widens between these fundamental processes. But milk and eggs do not make a permanent or a stable structure. As there is more involved in the etiology of pellagra than the lack of food, food unfit or disproportioned, so more is required in its cure than supplying what appears to be needed.

Cells may be bathed in a stream of albumins and salts and yet degenerate. Muscles can grow weak with an overplus of glycogen in the liver and glucose in the blood.

A man can suffocate in air rich with oxygen. He can starve to death with his stomach full of digested principles ready for absorption. The protoplasmic bases cannot actively receive what they cannot hold, and cannot normally hold what they cannot use.

It is generally known that some articles of food, because of personal idiosyncrasies, develop morbid conditions transitory in the body and often produce eruptions on the skin. This is not due primarily to poisonous action of the blood, but an abnormal reaction in the body between the food and an extraordinary condition pre-existing. In seeking analogy between this and diet as a factor in pellagra we must keep in mind the fact that there is a marked difference between acute disorder and chronic disease. Also, in further effort to explain the phenomena of pellagra by errors in diet it should be remembered that a lack of equilibrium is not classical disease, and that the laws that control the commerce of the body are so

fixed that when one organic principle is lacking in the food another can be converted to fill its place. The readiness with which the body can adjust itself to unusual demands, so often seen in instances of prolonged fasting, forced or voluntary, as well as in diseases, furnishes ample proof to us that pellagra means something more than a lack of equilibrium in either of the proximate principles in the body.

Corn as a factor in pellagra may with good reason be doubted. The role it plays cannot be measured by the extent of its use, but by the place that it occupies among other foods. The weight of experience, of the people in the South at least, with this article of diet is too heavy with proof of its wholesomeness and harmlessness to be easily set aside. That there is nothing in corn itself capable of producing pellagra we are very sure. If it is rendered unfit for food by changes within its own constituents, but without addition of a foreign element, it is to be supposed that its action and its results when eaten would be consistent with the actions and results of other vegetable poisons. And if its properties are changed by the incorporation of something not naturally a part of its composition it is likewise probable that it would behave itself as do other contaminated foods. In which event there should not be the absence and order of succession in members of the same family or household who eat the same meal, unless there is a difference in the condition of the members which predisposes one and protects the others.

Corn can be spoiled or rendered difficult of digestion or unfit for body use in more than one way, but vegetable poisons do not gain admittance to the body without change by the digestive juices, in which event they lose something of their toxic properties, and if absorbed find further obstacles to their action in combination with inorganic compounds in the body.

Animal poisons, except those generated by abnormal end processes of digestion, have no less difficulty in gaining admittance to the circulation when not injected directly into the tissue, or have contact with an abraded surface, and the length of their residence and extent of their action is controlled by resupplies from the original source, or their abilty to multiply in the animal fluids.

Inorganic poisons such as arsenic and lead can work changes in the functions of the body, but they cannot multiply and hence cannot accumulate except by continued use and deficient elimination. We are all familiar with the eruption of bromide, iodide and other salts. We do not know the ultimate effects of compounds used in preserving food and in adulterations having for their purpose commercial gain, nor do we know, even after this long period of its use, the exact results of drinking water which has been filtered and conveyed an indefinite distance through unnatural channels.

But a knowledge of the cause of a disease does not always carry with it an intimate knowledge of its character. Nor does the character always indicate the morbid processes pre-existing, nor the relation of these processes to each other as well as to the disease itself.

Only by a careful study of its symptoms, their relation to each other and to the morbid processes from which they arise, and the relation of these morbid processes to each other, can we make a definite and complete analysis of pellagra and give it proper place and distinction as a disease.

Yet too much importance should not be attached to the concurrence of symptoms, nor should they be associated too closely in an effort to trace through them the operation of their course.

Neither are co-existing conditions always as nearly akin as they may appear. Yet in no other disease so much as in pellagra have we seen such an intimacy and aggregation of symptoms, each separately expressive of some particular feature of the disease and all together expressive of an extraordinary general condition from which only could such an array of spmptoms arise.

In our experience, not one single case of pellagra has been without some gastric or in-

testinal disorder. It might be supposed that this disorder was only a result of complication of pellagra as often happens in other diseases. But in the majority of our patients a definite history of indigestion antedated the outbreak of pellagra. Rather for this reason it would seem that the gastro-intestinal disorder was a predisposing factor in the development of pellagra.

There is, however, such a wide variation in the forms and degrees of digestive troubles in pellagra that we cannot use our summary as a perfect working basis. In any account it is worthy of notice that the more pronounced the disorder of the alimentary tract antedating pellagra the more severe the attack, the more unfavorable the prognosis and the more tardy the recovery.

Especially does this apply to the absence of hydochloric acid, ptosis and dilatation of the stomach. So forcibly have we been impressed with the co-existence of these with pellagra and with the role they play in the conduct and treatment, we have been led to regard them as factors second to none in importance.

A careful comparison of the symptoms accompanying these conditions in a patient without pellagra with similar symptoms in pellagra will readily show that one is but an emphasis of the other.

The fact that some of these conditions exist apart and apparently independent of any disease save that which they constitute within themselves proves that their essential pathology is distinct, and has causative and other relations to pellagra only by virtue of the functions which they involve.

In our paper, from which we have already quoted, it was shown that in every case of diarrhoea among those reported not one had hydrochloric acid in the gastric secretion. Our table will show that we did not find this true in later experience.

We feel sure that when diarrhoea does occur with normal output of hydrochloric acid by the stomach, it is equally incidental in its relations to pellagra as that occurring in the absence of hydrochloric acid.

For this reason we believe that the diagnostic value of diarrhoea in pellagra has been exaggerated and that, per se, it should not be considered a pathognomonic feature of the disease.

Diarrhoea occurs in tuberculosis, cancer, atrophic gastritis, in each of which also we are reminded there is a lack or insufficiency of hydrochloric acid.

Certainly we cannot look to digestion alone for a solution of the problem. We are equally sure that we cannot omit it from careful consideration and reach a safe and logical conclusion. Indeed, it would be a mistake here, as it always is, to regard digestion as an entity or an independent process. The laws of reciprocal action, which are more flagrantly violated in pellagra perhaps than in any other disease, precludes such a right or physiological possibility. Metabolism and digestion cannot be perfect one without the other, any more than a man can by his boot-straps raise himself into the air.

(*To be concluded in May issue.*)

THE DUTIES AND STATUS OF A HEALTH OFFICER.

By M. M. Carrick, M.D.,
Dallas, Texas.

Public health administration is now looked upon as a profession which bends its knee to none so far as ideals and service are concerned. That the vocation of health officer and medical practitioner is no longer considered compatible by educators is evidenced by the fact that a "School for Health Officers" has been established under the joint auspices of Harvard University and the Massachusetts Institute of Technology, the first time in their history that these two institutions have ever joined hands.

That health administration throughout the country has lagged because of lack of trained leadership is the reason given by the educators back of the idea. They furthermore maintain that a health officer should not practice medicine, and that he must be required to give his entire time to his official duties, otherwise the latter cannot be properly done. He must, therefore, be supported morally and financially, the same as any other high official. In order to be assured of this, the office should no longer be a political one, but it should be made to depend entirely upon the steady improvement in sanitary conditions as shown by the gradual decrease in the sick and death rate. Then, and not until then, will the health officer come to his own kingdom.

In the old days any man who has received the orthodox training leading to a degree of M. D. could be honored with the position of health officer. Of necessity, the major portion of his time was given to his own individual practice, though he took time to post diphtheria, scarlet fever, and other contagious disease placards when occasion required. The idea of preventing these diseases never occurred to him. Even if it had, he would not have had the time to spare from his own individual practice to combat them. Besides, he knew no more of the duties of a health officer than does the average young medical man of today.

How can a health officer prevent the spread of disease if he does not know its mode of transmission?

The successful health officer must be all things to all men—and more. He must understand the making and breaking of health laws. He must concern himself with the laws of heredity and eugenics. He must make every effort to improve the conditions that menace working people. He must guarantee the quality of our food, the purity of our milk, the cleanliness of our water. He must be a student of industrial hygiene, and the diseases of occupation. In short, he must be familiar with all the sanitary sciences as well as the medical sciences, both of which in the broad biological sense underlie the foundation of successful health administration. It will thus be seen that the health officer is concerned with a few other matters besides his alleged "fad" of stamping out communicable diseases. He knows full well that there are many preventable defects which may be reached, especially in school children.

The position and prestige of those entering the public health service should be as jealously guarded as an officer in the army is honored as a defender of his country from outside foes, for so must the health officer defend his country from the devastating attacks of disease. The office should be looked upon as a profession, the same as that of the law, and not a makeshift for political or other honors. It should be an honored position with a regular and adequate income so that "whole time" may quickly replace "part time" efforts. Thus will the numerical strength of service be increased, and before long it will be fully equipped with well trained men in all its branches—a great army of doctors working shoulder to shoulder to eradicate disease. Nor should we expect them to practice medicine to "pay expenses" any more than we would expect an honored judge to maintain his position by practicing law.

To summarize, a health officer of the type pictured—one who is well equipped for the position both by training and experience, and who can devote himself heart and soul to his profession of health officer, is a necessity of modern life in state, county and city. We can no more afford to dispense with his services than we can with many of our court officials, and not nearly so well. It is said that not more than one person in a hundred ever has need for a courthouse, except as a place of record, yet we pay our court officials thousands of dollars a year as a matter of custom, without a murmur or question.

On the other hand, the great reform now being advocated by Harvard and the Massachusetts Institute of Technology—for which

all thinking people stand, would put the benefactions of modern science, looking to the prevention of disease, into every home which could be persuaded to accept it.

AUTHORS' ABSTRACTS.

Tropical Diseases and Public Health.

Spirochaetae and Fusiform Bacilli in Various Lesions in the Philippines. By Weston P. Chamberlain, Plattsburg Barracks, N. Y. American Journal of Tropical Diseases and Preventive Medicine, October, 1914, pp. 246-255.

In Manila Chamberlain has found that spirochetes and fusiform bacilli, the symbiotic organisms described in the so-called "Vincent's Angina," are very common findings in all kinds of lesions on the mouth and throat, and appear to be met with more frequently than is the case in higher latitudes. These same organisms are occasionally encountered in ulcers of the skin in the tropics. From time to time spirochetes and spindle-shaped bacilli have been reported in lesions of many different parts of the body in temperate climates. In certain cases of bronchial spirochetosis fusiform bacilli may be associated with the spirochetes. One such case was observed in Manila.

The clinical appearances were often very diverse even in cases where the fusiform bacilli and spirochetes were the sole organisms seen in smears, or were present in greatly prepondrating numbers. In several instances the ulcers studied were evidently of syphilitic origin, and the Vincent's organisms were apparently not of etiological significance. Chamberlain is in doubt as to whether these organisms are ever the cause of the multiform lesions in which they are so frequently found. He says, "In my opinion the finding of fusiform bacilli and spirochaetae in a lesion in the throat or elsewhere does not justify one in resting content with a diagnosis of 'Vincent's Angina.' It has been shown that they may be associated with syphilis, diphtheria, carcinoma and mercurial poisoning. These, and probably other etiologic factors, must be carefully ruled out before making the diagnosis."

Infection With the Cercomona Hominis. By Elliott C. Prentiss, El Paso, Texas. New Mexico Medical Journal, December, 1914, pp. 92-97.

Last summer many cases of severe acute and chronic diarrhoea were observed with cercomonas present in enormous numbers. Fresh stools, natural and resulting from salts, passed in office, were examined. Believes they were pathogenic in these cases, not harmless and incidental to the amoeba histolytica, which could not be found. If they had been due to the amoeba it would have been found in view of severity of cases. Sees no reason for such interdependence of organisms, as some observers think. Organisms were about as described in Sahli's diagnosis, except that anterior extremity was not pointed, nucleus was indistinctly seen, if at all, and flagellum was always single. Motion was exceedingly active and due to flagellum. Trichomonas were not present in any cases, differing with the experience of others. Symptoms suggested a severe catarrh rather than ulceration. Pain varied in intensity, was over colon, small intestines or whole abdomen; some had cramps. Movements three to twelve in 24 hours. Always mucus, seldom streaked with blood. Anaemia, loss of weight and strength were marked. Since publishing the article one patient mentioned has died; autopsy failed to show ulceration of intestines or other cause of death than severe diarrhoea. Emetine was beneficial but not curative; condition returning upon discontinuance. Best treatment: Liquid diet, laudanum, followed by ipecac at night and salts in morning; enemata of tannic acid or ipecac; emetine; large doses of bismuth subcarbonate.

Some Interesting Features Concerning the Study of Pellagra. By John L. Jelks, Memphis, Tenn. Memphis Medical Monthly, January, 1915, pp. 8-14.

From reports of 476 cases, author concludes theories of etiology are doubtful.

Those remaining endeared to dietary find difficulty in explaining recited facts.

Author admits compromise of his claim in 1909, that the ameba caused often associated skin symptoms, and in April, 1910, it caused pellagra, but still claims a frequent prerelationship through the toxines evolved, which caused pellagra probably from certain associated intestinal bacilli.

Gut infection precedes nervous, skin and other late symptoms. Pellagra is not a skin disease, and has no place in the hands of the skin specialist, for exclusive care and treatment.

Pellagra is not due to any special diet or incorporated mineral of diet. Sucklings of both healthy and pellagrous mothers have pellagra. Nursing pellagrous mothers have healthy children, though many of these do contract the disease, and one infant three days old died of pellagra.

Flies, raw vegetables and water are shown as likely means of transmission.

Frequent association of nephritis and colon bacilluria are referred to as additional evidence of primary infection being in the gut.

Results author has obtained from autogenous bacterins are recited to obtain co-operation in the study of gut infections, for in none of the 476 cases reported to him were cultures made, or examinations of fresh or stained specimens.

He deplores the methods of examination and care of pellagrins, which are superficial, empirical and indifferent, for in not one of these cases were the culture methods or the proctoscope used.

Impounded Water. By H. R. Carter, Washington, D. C. Public Health Reports, December 25, 1914.

The effect of impounded waters in producing malaria is one of the problems of rural sanitation taken up by the Public Health Service. Some surveys of such waters were made last summer,

but it is expected that it will require about five years before satisfactory conclusions can be formulated. The importance of this problem to the South, in view of the great development of its water-power by hydro-electric plants, can scarcely be overestimated.

This is the first paper on this subject and will be followed by others as the work progresses. This one discusses the general question only. It shows how a large pond destroys some breeding places for malaria-bearing mosquitoes and makes others; how to make a malarial survey of such a pond and what to observe in so doing; how to determine its relative effect on the production of malaria compared with conditions existing prior to its formation; the conditions which affect the production of anopheles—increasing or lessening them; what parts of the pond are most apt to produce these mosquitoes, and finally briefly discusses the effect of the age of the pond on its production of mosquitoes.

Among the conditions which lessen anopheles production in the pond in the first rank are placed: Wave action, small fish and predaceous water insects. As protecting mosquito larvae from the first, hence increasing production, are narrow, tortuous bays in the pond and shallow water; from the other two the presence of "floatage," i. e., trash, pine-needles, etc., next to the bank in such bays, and grass.

Reports of surveys of two ponds, one in North Carolina, one in Alabama, have also been issued.

The Influence of Tropical Residence on the Blood. By Weston P. Chamberlain, Plattsburg Barracks, N. Y. American Journal of Tropical Diseases and Preventive Medicine, July, 1914, pp. 41-45.

Investigating influence of climate on American soldiers in the Philippine Islands, Chamberlain examined the blood of 700 healthy men. After about eighteen months' residence the erythrocytes in white men averaged between 5,100,000 and 5,300,000 per cubic millimeter, and the hemoglobin ninety per cent. The leucocytes averaged between 7,000 and 7,300 per cubic millimeter. On differential count showed small lymphocytes present in larger proportion than in temperate climates, averaging above thirty per cent, while the polymorphonuclear neutrophiles were reduced, ranging from fifty-four to fifty-eight per cent. In Filipinos the reduction in polymorphonuclear cells was more marked than white men. The Arneth count showed a marked shift to the left among Filipinos, and a very slight left deviation among white men who averaged fourteen months in the tropics.

This work with regards to the red cells, the hemoglobin, and the differential count of the leucocytes agrees with the findings of several other observers in the Philippines. Chamberlain's work with the Arneth classification was the first reported from the tropics, and Anton Breinl has since reported a similar shift to the left in white children born and brought up in tropical Australia.

Chamberlain believes that a climatic "tropical anaemia" does not exist in the average American residing in the Philippines. The pallor often seen he believes to be due to a cutaneous ischaemia. The "tropical anaemia," so-called, in most instances was due to infestation with such parasites as plasmodia, leishmania and uncinaria, and not to climate per se.

A lowered polymorphonuclear count combined with a shift to the left in the Arneth picture means an absolutely reduced number of efficient phagocytes, and the suggestion is offered that these changes in the blood may be an indication of lowered resistance to certain infectious diseases on the part of dwellers in the tropics.

The County Health Officer—His Difficulties and Obligations. By Oscar Dowling, Shreveport, La. Pan-American Surgical and Medical Journal, January, 1915, pp. 11-14.

The law provides for health supervision. In theory, it appears satisfactory; in practice, health boards and officers are so in name only.

The health officer should give his whole time and be at his desk within specified hours; he should be paid an adequate salary; he should have a sufficient expense account for emergencies. He should know the latest scientific facts pertaining to public health. He should be independent of political domination.

Such high-class service will not obtain until the appropriations are sufficent to attract trained men. A glance at municipal and parish budgets shows the present attitude of the public. The salary of a health officer in the rural districts of many states is $150 a year or less. In one instance the public roads item is $6,000; incidental expenses, $5,000; health and sanitation, $900.

The physician who accepts office under these conditions must remain inactive except in such activities as will not arouse animosity.

For those who are paid an equivalent, unfortunately they are very few, their obligation is clear —to use economically and effectively funds at their disposal; to center on practical remedies for existing conditions, and to be fair and just to all alike in the enforcement of the law.

Every practitioner of medicine is a potential health officer. He knows better than any other member of the community principles of the science of health, and conditions which obtain. It follows he should be an example. His office should be a model of cleanliness; his instruments sterilized; his personal habits above criticism.

SURGERY, GYNECOLOGY, OBSTETRICS AND GENITO-URINARY DISEASES

THE ACUTE SURGICAL ABDOMEN.*

By Floyd W. McRae, M.D.,
Atlanta, Ga.

I have on several occasions before the Medical Association of Georgia, and the Surgical Section of the American Medical Association, urged the necessity for surgical deliberation in chronic or elective surgery.

Today I want to point out with all possible emphasis the tragic consequences of indecision, of lack of courage, of ignorance, of yielding to importunities of patients, relatives or friends, of masterly inactivity, of the abuse of purgatives and opiates, in dealing with the acute surgical abdomen.

My object in writing this paper is to call attention to the essential features of the important acute surgical conditions of the abdomen which demand early recognition and prompt surgical interference in order that valuable lives may be saved and much suffering prevented.

If I can help my fellow workers to mitigate the intense suffering caused by these conditions, and save them the humiliation and the tragedies that must follow these diseases overlooked, neglected, improperly treated, my purpose will have been accomplished.

Here let me quote from the most excellent paper of Dr. J. C. Bloodgood, The Journal of the A. M. A., page 829, March 23, 1912:

"Most surgeons must feel daily that they are called on to employ their art as operating technicians at the wrong and late period of the disease. In this sense much of their work is unnecessary surgery. Earlier recognition of the disease, in some cases followed by appropriate treatment may make surgical intervention unnecessary; such measures belong to preventive surgery.

"Most physicians must regret their relation to the later intervention of surgery. In the literature and in conversation one so often reads and hears that surgery should be the last resort, modified sometimes by the statement—but not a late resort. This expression 'a last, but not a late resort,' sounds well, and I am quite certain that those who employ it mean well and are just as anxious to have surgery an early intervention, although as a 'last resort.' I fear, however, that the promulgation of the expression that surgery should be a last resort will unconsciously act to make it a late resort.

"In view of the daily painful reminders in my operative work that surgery, indeed, is a late and last resort, and much of it unnecessary in this late period, and some of it absolutely preventable, it is natural that I should wish to discuss the surgeon's view of the medical aspects of surgical diseases. In the last few years I have been especially attracted by this phase of the subject and have dwelt on it at considerable length in teaching. The facts are these: At the present time and ever since modern surgical methods were introduced, surgical technique has been far ahead of either surgical or medical diagnosis. No one can question this. A graduate in medicine can become proficient in surgical technique long before he is in diagnosis. Surgeons, therefore, are prepared, in the majority of cases, to offer this improved technique to patients with surgical lesions in the early stage of the disease as well as in later periods. A statistical study of any surgical clinic will demonstrate that all classes of diseases which ultimately come for treatment by operation come, not in the early stage, but at later periods.

("Studies of immediate and late results demonstrate that the operative mortality is greater in the late period, the post-operative complications and period of disability greater than when the operation was performed in the early stage. But the contrast is most striking in the study of late results.")

The previous history of the patient is of great value in arriving at a correct diagnosis. Laboratory findings by an expert are very helpful, but not always essential. The labora-

*Read in Section on Surgery, Southern Medical Association, Eighth Annual Meeting, Richmond, Va., November 9-12, 1914.

tory diagnostician will frequently waste valuable time. Clinical methods of diagnosis are sufficient to indicate the nature of the disease and admit of prompt action. The internist or surgeon who hesitates in order to work out hair-splitting details will often lose the golden opportunity for saving life, or of preventing irremediable complications.

We should not be governed in making diagnoses and recommending surgical consultation by "surgical ancient history," but by the latest publications from the pens of the best medical and surgical diagnosticians. Of what real value is the diagnosis of acute intestinal obstruction after three or four days of progressive symptoms with stercoracious vomiting, peritonitis, barrel-shaped abdomen? Such a diagnosis calls for the undertaker rather than the operator. Of what service is an accurate diagnosis of ruptured ectopic pregnancy when the woman is pulseless, fighting for air, moribund—perhaps brought to this state by the energetic administration of powerful stimulants, saline infusions, or transfusions, forcing the little blood left in the heart and vessels into the abdominal cavity. Drastic purgatives kill many; convert simple inflammatory troubles into serious surgical conditions, help none. I do not know of any class of agents, or method of treatment, so pregnant with dangerous possibilities, so universally demanded by the laity, so frequently administered by the profession. Every surgeon, every clinician, has abundant opportunity to verify the disastrous effects of purgatives on the operating table, or in the post-mortem room.

Opiates have a real place, but a narrow range of usefulness, and when administered there is grave risk of obscuring the real con-

tation of patients suffering with acute surgical abdominal conditions, comparatively safe for considerable distances.

Patients suffering with acute abdominal conditions should be kept in a recumbent position, whether at home, or en route to a hospital. They should never be transported in a sitting posture when avoidable. A spring cot or mattress and springs can be put in a wagon or baggage car and the patient moved with comparative comfort and safety.

Many of the acute surgical conditions are not imperatively operative, and only become so if neglected, or improperly treated. By prompt recognition of the abdominal pathology complications and disaster may be avoided. Every general practitioner should be on the lookout for the acute death-dealing diseases, such as perforating gastric or duodenal ulcer, gall-stones, acute pancreatitis, acute intestinal obstruction, internal and external hernia with strangulation, ruptured ectopic pregnancy, acute pelvic inflammation, fulminant appendicitis, etc. He should be familiar with the classical signs and symptoms of these diseases, and be able to marshall these signs and symptoms so as to differentiate between real surgical conditions and intestinal colics due to fermentation, constipation, etc. A diagnosis of acute indigestion that is associated with intense pain, fever, localized tenderness and followed by soreness and disability, should be looked upon with suspicion. If "acute indigestion" terminates in death, then someone has blundered. As physicians we should awake to the fact that people do not die of acute indigestion. Such diagnoses are a sad commentary on our profession, misleading and mischievous in their influence on the laity. We must, in the presence of obscure conditions, or the absence of correct knowledge, be fair with ourselves and our friends and say, "I don't know." Then we are in a position to study the case closely, examine in detail, call for consultation, avoid disaster, save lives and reputations.

Intense abdominal pain is a symptom of the

greatest value. Its persistence with increasing intensity or recurrence after a hypodermic of morphine should put the doctor on guard immediately. My experience in dealing with acute abdominal troubles has been that disaster follows very, very frequently in the wake of severe initial pain, and the administration of morphine. It makes very little difference whether this be the acute stabbing pain of a perforating gastric or duodenal ulcer, the intense colicy pain of gall-stones, or the more steadily increasing pain of fulminant appendicitis.

The more or less sudden cessation of pain should arouse suspicion. Following the immediate pain of perforation of gastric or duodenal ulcer there is a period of comparative rest until the incidence of general peritonitis. The same is true of perforative appendicitis after the concretion bursts its way through the appendix, or in fulminant appendicitis where there is complete death of the organ.

The general appearance of the patient is perhaps second in value only to pain as a diagnostic and prognostic feature. The peculiar anxious expression of countenance that we designate the facies abdominalis, is of extreme value. Nausea and vomiting, more or less severe, are concomitants of most of these abdominal diseases, but frequently enough so slight, or entirely absent, as to keep one on guard constantly.

Accompanying the intense pain and nausea there is almost always a corresponding influence upon the pulse rate. It is usually increased in frequency and lessened in force in proportion to the pathology. Occasionally instead of a rapid pulse there is a slow, weak pulse. Few of the most serious acute surgical abdominal diseases are associated with rise of temperature at the onset. This is true of appendicitis as well as of the non-inflammatory diseases, such as perforating duodenal ulcer, ruptured ectopic pregnancy, acute intestinal obstruction. In my experience there is no other one thing that so often misleads doctors who have not kept in close touch with these subjects as the absence of fever. The general practitioner has so long been taught the importance of a rise in temperature and sees it almost universally associated with the infectious so-called medical diseases, that he is apt to be taken off his guard, and lay too much stress on the absence or presence of fever.

Early, careful examination of the abdomen with the warmed hand laid first flat on the belly, then carefully, lightly manipulated over the entire surface will practically uniformly discover increased muscular tension over the site of the intra-abdominal pathology. More or less deep-seated tenderness, according to the location of the pathology, can also be practically uniformly determined by proper examination.

These simple signs and symptoms, common to all acute surgical abdominal diseases, are sufficient to enable the doctor to determine that he has some real and serious trouble to deal with. It is only by taking prompt action that good results may be obtained, surgical interference frequently avoided and valuable lives saved. Now is the time for consultation, and where the symptoms persist, if competent help is not at hand, to transport the patient to where help can be obtained, the case carefully watched and emergencies dealt with as they arise.

I wish again to emphasize the danger of purgatives in dealing with the acute surgical abdomen. The stomach may be emptied by the stomach tube, and the bowels by enemata, as indicated, but drastic purgatives should be scrupulously avoided. Purgatives in such conditions are always dangerous, frequently death-dealing.

It is not my purpose to go into the details of these surgical conditions. My intention has been to try to help general practitioners and surgeons alike to realize their responsibilities in dealing with this class of diseases, in the hope of saving life and preventing suffering.

(Discussion on page 304)

THE TECHNIQUE OF INTESTINAL SUTURING.*

By J. Shelton Horsley, M.D., F.A.C.S.,
Richmond, Virginia.

Intestinal suturing may be employed to repair a wound, to short-circuit the bowel, or to unite its ends after resection. As elsewhere in surgery, the basic principles underlying healing of the tissues on which the operation is done should be thoroughly understood. Successful intestinal suturing depends upon proper approximation of the peritoneum and upon satisfactory nutrition to the sutured area, and the surgeon who does not constantly have in mind these two things will necessarily have bad results. In intestinal suturing the peritoneum unites promptly, but this depends upon something more than mere approximation. There must either be mild pressure that produces slight destruction of the endothelial cells or else this irritation must extend around a foreign substance, as a suture, sufficiently far to meet a similar process from a neighboring stitch. In 1903 (Annals of Surgery, May, 1903), I published experiments which appear to demonstrate that more than mere approximation of peritoneal surfaces is necessary for satisfactory union. If two loops of intestine are fastened together by two rows of sutures a half inch apart, and the suture material is small and no infection occurs, it will be found that all the peritoneum between these two rows does not always unite. It has been noted that the Murphy button leaves an ideal scar because it produces a uniform, mild pressure throughout a narrow margin around the intestine. A continuous stitch makes some [illegible] and consequently reproduces more closely the conditions that make the linear scar of the Murphy button than do interrupted stitches [illegible] there are alternate points of pressure and no pressure, and where union must depend upon the extension of the hyperemia from one stitch to the other. This hyperemia results from the presence of a foreign body, the stitch, and from the pressure within the bite of the suture. It has been pointed out a number of times by Connell and others that capillary drainage goes toward the knot, so the knot should be within the lumen wherever possible. The right angled continuous suture of Cushing, or the continuous mattress stitch, which is the same thing in principle, leaves practically

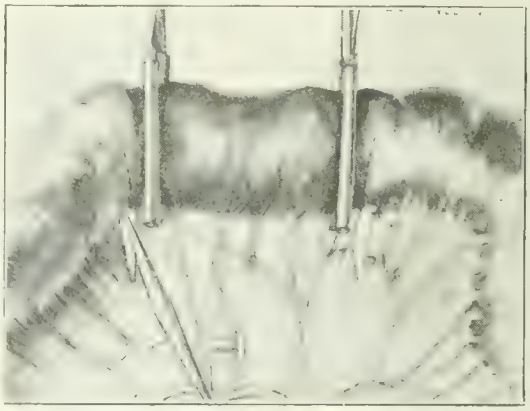


Fig. 1.—Before the bowel is divided, its mesentery is cut close to the bowel wall and the triangular space, caused by separation of the layers of the mesentery just before they cover the bowel, is clamped with a hemostat and ligated with silk or linen. This area is composed of areolar tissue rich in blood vessels and lymphatics which absorb quickly, and even though it is closed after it has been inoculated, the germs are merely sealed in and are likely to cause breaking down of the union at this point later on. The procedure indicated in the cut obviates this and also brings together the peritoneum at this point.

no thread on the peritoneal surface and secures a firm hold on the bowel. A stitch whose bite is at right angles to the wound instead of parallel with it, has the tension concentrated at one point; that is, the point farthest from the wound, and is more likely to cut; whereas, with a right angled or mattress stitch the bite is parallel with the wound and the tension is equally distributed along the whole loop of the suture. All sutures should penetrate the lumen, for, as pointed out by Halsted, it is essential to grasp the submucosa in order to have a secure hold, and Connell has demonstrated that to do this with regularity it

*Read in Section on Surgery, Southern Medical Association, Eighth Annual Meeting, Richmond, [illegible] November 9-12, 1914.

is necessary to enter the lumen with each stitch because the diameter of the ordinary intestinal needle is far greater than the thickness of the submucous layer.

It is essential to have a good blood supply along the margins of the wound. In order to secure this, the bowel should be cut somewhat obliquely. In operating for thrombosis or embolism of the mesenteric vessels, or for gangrene from any cause, care should be taken to

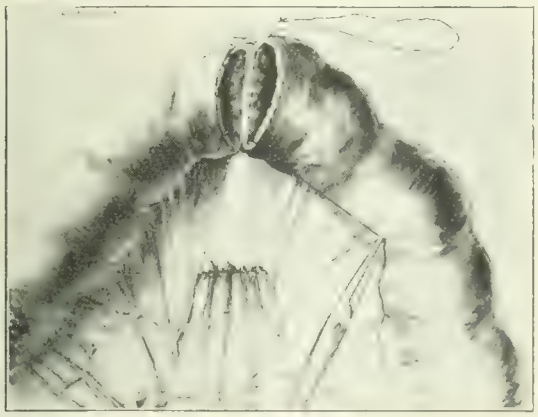


Fig. 2—The first stitch starts in the end of the bowel at the operator's right hand about one-third of an inch from the mesenteric border. It is a mattress stitch and penetrates the wall of the right bowel from within out. The needle is then carried across to the left end of the bowel and penetrates all coats, entering on the peritoneal surface and emerging from the mucosa. It comes back in the reverse direction, entering the mucosa and emerging on the peritoneal surface, then enters on the peritoneal surface of the right bowel and emerges on the mucosa. The thread is tied, leaving an end about four inches long which is grasped in hemostatic forceps. The needle is then passed back and forth through all coats of the bowel, suturing away from the operator, and making a continuous mattress stitch. After about one-third of the circumference has been sutured, the needle emerges from the lumen of the right end of the bowel and is then thrust through all walls of the right end from within out, appearing on the peritoneal surface of the right end. The stitch is then continued as a right-angled suture penetrating all coats of the bowel.

excise a sufficient amount of intestine. If the ends do not bleed readily there should be no hesitation about resecting still more bowel. Though the bowel may look normal and though there may be a sufficient blood supply to maintain the vitality of the tissues, it may not be enough to stand the additional burden of repair, and the sutures will consequently break down.

Mayo has emphasized the fact that at the

tory union occurs when only one side of the sutured tissue is covered with peritoneum. Many surgeons do a lateral anastomosis, closing both ends of the bowel, which leaves two cul-de-sacs, solely in order to have peritoneum on both sides of the anastomosis. The objections to this operation have been mentioned by Senn, and later sustained by the physiological studies of Cannon. In the large intestine, if end-to-end suture cannot be done an end-to side union gives good results, as peritoneum is only needed on one side, and but one cul-de-sac is left.

In a resection care must be taken to divide and tie the mesentery before the bowel is

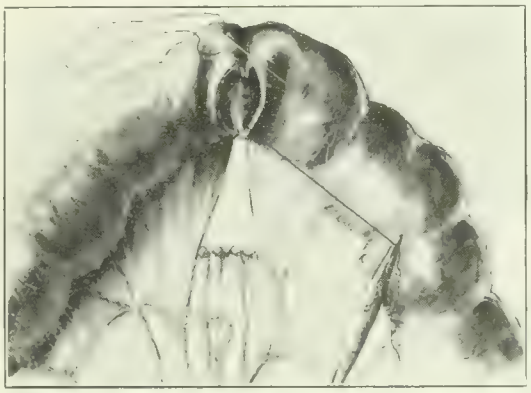


Fig. 3—The suture is continued, inverting the bowel edge as it goes. A back-stitch should be taken at every third or fourth stitch. This is done by taking two consecutive stitches on the same side, the last one being slightly furthtr back than the preceding stitch. This makes it impossible to draw the threads so tightly as to cause puckering and too great diminution of the lumen of the bowel.

opened. In many techniques the bowel is first opened and the same scissors or knife with which the bowel is cut also divides the mesentery. This infects the triangular area at the mesenteric border where the peritoneum separates to envelop the bowel. This area is rich in lymphatics and small blood vessels, and the instrument which has become septic by dividing the intestinal mucosa promptly inoculates this tissue. After it has been inoculated, closing by suture does not prevent subsequent infection and breaking down of the stitches at this point.

In order to obviate this, the mesentery must

be divided close to the bowel and this triangular area clamped and tied (Fig. 1); after it has been sealed in this way the lumen of the bowel may be opened. The bowel is then divided and its ends cleaned with moist antiseptic gauze. The first stitch begins in the end of the bowel at the operator's right hand, about one-third of an inch from the mesenteric border. It is a mattress stitch, and starts from the mucosa of the right bowel penetrating all coats. Then the needle is carried across to the left end of the bowel and penetrates all coats, entering on the peritoneal surface and emerging from the mucosa. It comes back in the reverse direction, entering the mucosa of the left bowel, emerging on the peritoneal surface of the right bowel and emerging from the mucosa. The thread is tied, leaving an end about four inches long which is clamped with a light hemostatic forceps. The needle is then passed

Fig. 4—The suturing has been completed, the last stitch being taken at the left end of the bowel slightly beyond the lowest point where the original cut at the mesenteric border ended. The knot should be snug and should be tied parallel to the line of suture so that it will sink in easily. The ends should be cut short and will disappear in the lumen.

bowel has been sutured, the needle emerges from the lumen of the right end of the bowel, and is thrust through all walls of the right end, appearing on the peritoneal surface. (Fig. 2.) The suturing is continued as a right-angle stitch penetrating all coats. (Fig. 3.) Snug approximation is made with each stitch, and at about every third or fourth stitch a back stitch is taken in order to prevent the thread being drawn too tightly and so diminishing unduly the caliber of the bowel. This is done by taking two stitches on the same side, the last one being slightly farther back than the preceding stitch. It is very important to have the first third of the suture line that unites the mesenteric portion of the intestine drawn tightly, but after this unless the back stitch is taken at intervals, pulling the thread may draw in the lumen enough to produce obstruction. No more tissue is

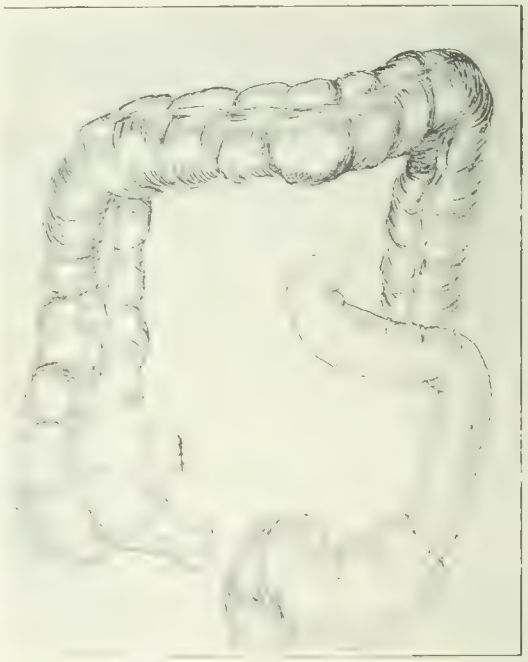


Fig. 5—The sigmoid has been resected, the ileum cut across near the ileo-cecal valve, and its distal end [illegible] by invagination. The ileum has been sutured to the distal portion of the sigmoid, end-to-end, and the descending colon is drained into the ileum by an end-to-side anastomosis. In this way, the defect left by excising the sigmoid is bridged over by transplanting the ileum, and the secretions from the large bowel are drained into the ileum.

turned in than is necessary to approximate the peritoneum.

The suture is continued toward the operator, and is carried a stitch beyond the lowest point where the original thread left when the knot was tied comes out. The last stitch should be taken in the left end of the bowel. The thread is then tied firmly to the original end that is grasped in the hemostat. The knot is run down parallel to the line of suturing so as to sink in easily, and is tied quite snugly three times. (Fig. 4.) The ends are cut short and will disappear within the bowel. If a back stitch has been taken at proper intervals, there is no danger of reducing the lumen by tying this knot too tightly.

This method is simple, leaves only one knot which is within the bowel, and I have never seen a leakage when it was properly used. The danger of obstruction to the lumen is obviated by putting in occasional back stitches, by properly approximating each stitch as it is made, and by not turning in too much tissue. The thread is practically all buried, leaving almost no thread exposed on the peritoneal surface, and the whole suturing can be done very quickly. All of these features are important.

After an extensive excision of the sigmoid, it is impossible to unite the ends of the bowel, and the usual procedure is to make an artificial anus, or else to excise the rest of the large bowel and do an ileosigmoidostomy. Such an extensive operation is often out of the question. An artificial anus in the cecum can be made without the dangers that would attend an opening higher up in the small intestine, and a radical operation may be done later. If the patient's condition warrants it, however, the ileum may be divided near its termination, united by end-to-end suture to the distal part of the sigmoid or rectum by the technique described above, and the transverse colon drained into the ileum higher up by a lateral or, better, an end-to-side anastomosis. (Fig. 5.)

(Discussion on page 304.)

THE IMPORTANCE OF THE SIGMOID ADHESION.*

By Hubert A. Royster, A.B., M.D., F.A.C.S.,
Surgeon to Rex Hospital, Surgeon-in-Chief
to St. Agnes Hospital,
Raleigh, N. C.

My part in this symposium will be confined to a brief description of the sigmoid adhesion. For nearly six years I have been keenly interested in this lesion, and have published two papers on the subject. I do not refer to the existence of general inflammatory adhesions

Fig. 1.—The sigmoid adhesion as typically seen involving the Fallopian tube.

in the sigmoid region, but to a definite adhesion (or kink) producing typical symptoms. Nor do I care to include in this discussion the whole subject of intestinal adhesions or abdominal ptoses. I prefer to point out the im-

*Remarks made in Section on Surgery, Southern Medical Association, Eighth Annual Meeting, Richmond, Va., November 9-12, 1914.

(Note.—We are indebted to Surgery, Gynecology and Obstetrics for the use of the cuts illustrating this paper.)

portance of this condition in a particular class of cases and to recommend a simple procedure for their relief.

It is a significant fact to note that the lesion accounts for a large proportion of left-sided pain in women. Not all such cases are due to the ovary. This organ has been needlessly sacrificed again and again. The sigmoid adhesion is a definite clinical entity and should be considered in the diagnosis of all left-sided pain, especially if associated with constipation.

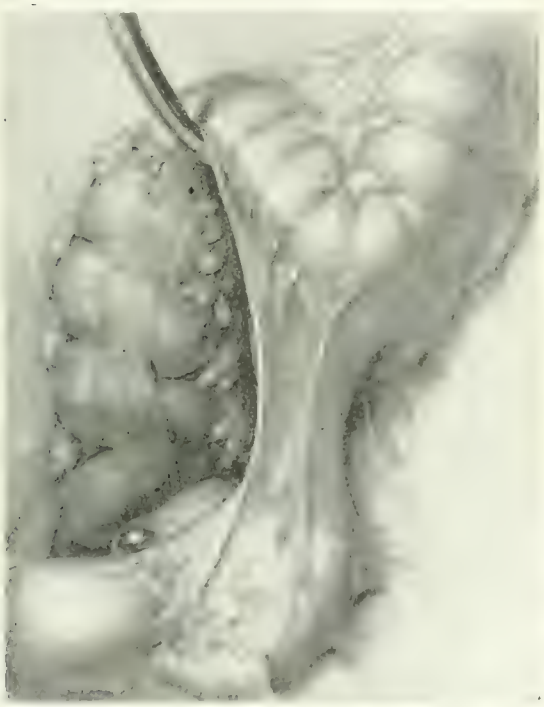


Fig. [illegible] showing depth and extent of adhesion.

This observation which I first made some two years ago has been confirmed by many observers, both in public and in private communications. Recently a surgeon wrote me that a woman who previously had been operated upon for left-sided pain, first by having an ovary and tube removed there is [illegible] hemorrhoids excised, was still unrelieved; on opening the abdomen he found a [illegible] adhesion and after this had been [illegible] tended to the patient was entirely free from her pain.

Kinks and membranes and veils are the order of the day. Those on the right side have been named for their alleged discoverers, and they have been studied to the exclusion of all other adhesions in the abdomen. I suppose the left side is such a dirty portion of our anatomy that nobody wishes to have anything named for him in that region. At any rate, we have had our attention constantly focussed

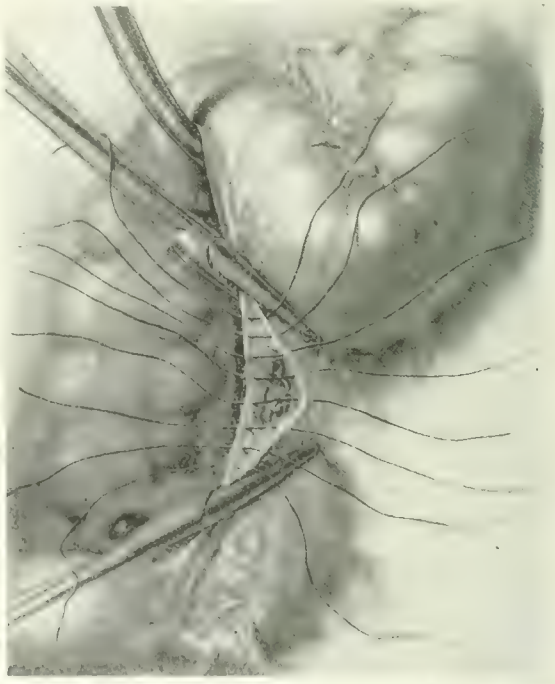


Fig. 2. The adhesion has been divided crosswise between [illegible] and is being sewed up longitudinally with interrupted catgut sutures. This allows the sigmoid to drop away from the tube and [illegible] the broad ligament

on the right side and have neglected similar conditions on the left.

The signs usually exhibited by patients affected with this condition are: Left-sided pain, increased on defecation, and constipation, sometimes amounting to obstipation which does not seem to be relieved by ordinary means. Some of the patients describe a sense of stoppage, which they point out as occurring at a certain point.

I have found two classes of adhesions. There

is the typical condition, an independent lesion producing a partial intestinal stasis, unaccounted for by other lesions of the peritoneum, and, second, a condition in which the lesions are not primary, but associated with other pelvic pathology. Of the first type, I have had, up to the present time, fifty-one cases, 75 per cent of which have been diagnosed before the operation. The other 25 per cent we did not diagnose, but more or less suspected, and in half of these we were in error as to the conditions present. Fifteen of the total were colored women, so we can say that the psychic element may be left out of the question. Of the atypical condition in which the lesion played a secondary role, we have had thirty-three cases. These are the cases in which we find fibroids or pus tubes, or perhaps mucous colitis, some cases amounting almost to a diverticulitis.

In showing these three slides, we can demonstrate the handling of this adhesion. In this picture (Fig. 1) we see the typical sigmoid adhesion, the pelvis below, the ovary and tube being involved, with a more or less superficial matting in front. This can be separated easily with the fingers or by light clipping with scissors. You see the kink here produced by this band, which pulls the sigmoid down, so it has not its natural curve as it comes over to join the rectum. These superficial adhesions lie over the real adhesion, which we will see in the next slide. This (Fig. 2) shows the superficial adhesions separated, more or less, and the sigmoid pulled up by the instrument so as to put the adhesive band on a stretch. We first grasp the upper and the lower angles, each with forceps, and cut across with scissors; then after having made this transverse incision we sew it up longitudinally, and, therefore, lengthen the interval between the bowel and the broad ligament or pelvic structures, allowing the sigmoid to drop down behind them. Raising the sigmoid into a higher position I believe to be a bad principle, and I have seen two deaths from obstruction in trying to stretch it upwards or suspend it.

In this slide (Fig. 3) you see the condition I have just described, the forceps applied and the vessels showing at the bottom of the separated peritoneum. The edges are united with interrupted catgut sutures. We look for bleeding points, then remove the forceps and the bowel drops back into position. This describes the operation as we see it in the living subject, and it is very simple.

(Discussion on page 304.)

CHOICE OF OPERATION IN INTESTINAL OBSTRUCTION*

By Joseph Graham, M.D.,
Durham, N. C.

In presenting a paper upon this subject the writer has no apologies to offer, for the disease and operations for its relief contribute a large part of the total mortality of all abdominal operations. He must apologize, however, for the personal character of this paper. It is not a review of the literature of the subject but a statement of observations and conclusions based upon his own work, a series of one hundred and fifty-nine cases operated on in the hospitals, private homes and farmhouses of Durham and surrounding counties. This series includes:

69 strangulated hernia. Died, 2.

11 obstructions by adhesions from previous inflammation of appendix and pelvic organs. Died, 4.

31 early and late post-operative obstructions. Died, 8.

3 strangulations by Meckels diverticulum. Died, none.

2 intussusception. Died, 1.

13 obstructions by adhesions or abscesses of tubercular peritonitis. Died, 6.

9 obstructions by hypertrophic ileocecal tuberculosis. Died, 1.

15 cancers of the colon and rectum. Died, 8.

3 strictures of the rectum. Died, 1.

Total, 159. Died, 31.

*Read in Section on Surgery, Southern Medical Association, Eighth Annual Meeting, Richmond, Va., November 9-12, 1914.

A total of 159 cases with 31 deaths. Mortality rate of about 20 per cent. Subtracting the 69 hernia cases we have left 90 cases due to all other causes with the death of 29 cases, or a mortality rate of about 33 per cent. Many of these cases died from the result of delay. Many others died from badly chosen or badly executed operations. Such a report certainly proves that the condition is one well worthy of your serious consideration.

In speaking of the choice of operations on intestinal obstructions we will make no attempt to recall the operations used in these cases, but will attempt to outline our choice, basing this choice on the foundation—safety—according to our own experience.

An individual afflicted with acute mechanical obstruction of the intestines has no choice but to undergo operation. The physician has performed his duty when he makes the diagnosis and immediately refers the case to a competent surgeon. Every case of intestinal obstruction is surgical, and must be treated surgically. It is not necessary for the physician to locate the seat of, or the cause of the obstruction, nor is it necessary for the physician to act surgically, but he must think surgically. The man who holds his case until he sees that the patient will die without operation will find that the patent will also die after he is operated on.

Morphine for the relief of pain of acute abdominal calamities should not be given until after the diagnosis has been made. In abdominal calamities purgatives do more harm than good. The one beneficial aid in the hands of the physician is the stomach tube. Rarely have I had a case of intestinal obstruction referred in which the physician had used lavage. Morphine, purgatives and enemas are always tried; lavage is usually omitted.

While the patient has no choice but to be operated, the surgeon has a wide range of choice in selecting the operative procedure. This must be decided by the surgeon's *judgment*. Judgment must be based upon correct, complete diagnosis. The surgeon must at least attempt to diagnose the cause and the seat of the obstruction. Hence the necessity of a complete clinical history as well as the physical examination. The general condition of the patient, especially the amount of toxaemia, must be carefully considered. The enormous mortality of intestinal obstruction is largely due to two factors—delay and ill chosen or badly executed operative procedures. In the very late cases the choice of operation should not be decided by the cause of the obstruction, but more often by the general condition of the patient. We must look upon the prognosis from the patient's point of view.

The operation which gives the speediest relief will be the most desirable. It is not the permanent cure of the disease causing the obstruction that at such a moment is the surgeon's chief desire, but some quick, safe means of giving relief so that the patient may be safely carried through a time of great peril, and later a more complete procedure for permanent relief can be undertaken. In these late cases enterostomy is a life-saving measure. Enterostomy has been looked upon as a last resort, to be used only when death is imminent. While a successful enterostomy still leaves the patient with a chain of danger, yet the chance of overcoming these dangers is better than to subject an almost moribund patient to a radical operation.

In our experience the most frequent causes of acute obstruction of the small intestine have been strangulated hernia, adhesions following appendiceal and pelvic inflammation, postoperative adhesions, tubercular peritonitis, strangulation by Meckel's diverticulum, and intussusception.

We think the greatest advance made in treating strangulated hernia has been the use of local anaesthesia. Under local anaesthesia we can treat the damaged bowel and take time to make an intelligent decision as to the necessity of resection. No matter what the cause of the strangulation the decision as to the necessity of resecting the intestine is diffi-

cult in the majority of cases. No definite rule can be followed. Each case must be decided by the judgment of the surgeon. The safest rule to follow is, whenever in doubt as to the viability of the bowel, perform resection. A properly performed resection will not kill the patient, but a bowel that has been strangulated may kill even after the strangulation has been relieved. This is particularly true of intussusception. Every case of intussusception coming to operation late had best be treated by immediate resection, avoiding the dangers of reduction and the dangers of toxaemia, even if reduction is successful.

In performing resection for strangulation the important factor is to resect enough bowel. It is not the length of bowel removed that kills but the peritonitis and gangrene which result when the resection is made through damaged gut. Seven years ago we resected three feet of ileum, the cecum and the ascending colon for a child eleven years old. This child, a young man now, is living and well.

In performing resection for obstruction we empty the bowel by an incision into the part to be removed; we then divide the bowel with cautery, between clamps; ligate and turning the ends make lateral anastomosis. We consider lateral anastomosis safer than end to end union in resection for obstruction. The anastomosis is best made by suture. The essential points are to make the opening large enough, never less than two and one-half inches; place the bites of suture close enough to produce full irritation of the peritoneal coat; secure broad approximation of the peritoneal surfaces; be certain that the sutures control all hemorrhage.

The most frequent causes of acute obstruction at the ileocecal junction have been inflammations, adhesions, hypertrophic ileocecal tuberculosis, and carcinoma.

In the treatment of obstruction by carcinoma and ileocecal tuberculosis we consider the two-stage method the safest. The first anastomosis between the ileum and the transverse colon, later, resection of the terminal ileum, cecum and ascending colon. Great care must be exercised in closing the end of the colon.

Ileocolostomy can be best performed by suture, but here the Murphy button is safe, as the contents of the small intestine of fluid and the button usually drop into the colon. We have successfully used the Murphy button in seven cases of ileocolostomy.

All of our cases of obstruction of the colon have been due to cancer or stricture. An attempt to locate the seat of the obstruction should always be made. Rectal examination is of value. Bismuth enema and skiagraph should always be used in the hospital cases as it requires only a few moments and greatly aids in the location of the obstruction. Unless the seat of the obstruction can be located we explore in the mid-line, and make second incision over the sight of the tumor. In acute obstruction of the colon by cancer no attempt to resect the growth and perform an immediate restitution of the canal is justifiable.

The colon and tumor are immobilized by dividing the outer leaf of the mesocolon; the inner leaf of the mesocolon containing the glands and blood vessels is then ligated and divided. The loop of bowel containing the tumor, together with the glands in the divided mesentery, are then drawn out through the abdominal wound. Great care must be exercised in handling the dilated colon. No attempt is made to suture the colon to the wound. In one case we did so and the suture cut like a knife, allowing copious escape of the contents of dilated gut with resultant sepsis and death. The loop of bowel containing the growth, mesentery and glands is then covered with gauze, and the wound closed around the protruding bowel. The extruded bowel is not opened or excised for several days so as to allow firm adhesions to form between the wound and bowel. Delay in removal of the gut and tumor allows the adhesions to become firm, and these firm adhesions not only prevent contamination of the wound but also prevent retraction of the bowel ends after the tumor is excised. If the obstruction is very

great, relief is given by a second incision on the right side, and the performance of either appendicostomy or cecostomy for the escape of gases.

Some weeks after the bowel and growth have been excised the colon canal can be restored by means of the enterotome clamp. In obstruction due to cancer of the rectum and lower sigmoid we make incision through the left rectus, examine the tumor, glands and liver. We then draw a loop of the colon out through the abdominal wound and fasten it as we close the wound. A second incision is then made on the right side and either cecostomy or appendicostomy performed.

A few days later the colon is opened and the colostomy completed. Some weeks later the growth is removed by a modified Kraske operation. If possible the ends are united after removal of the growth and the preliminary colostomy can then be closed. If end to end union cannot be secured after removal of the growth, the colostomy is left as a permanent artificial anus.

In post-operative intestinal obstruction we usually have a combination of dynamic and adynamic obstruction. There are some adhesions or kinks, and the weak peristalsis is not able to overcome the obstruction. While these cases require the greatest judgment to decide when to operate the safe rule is not to wait too long. Enterostomy is the safety valve, a simple procedure, but has life-saving effects. In the performance of enterostomy we usually use the following method: Local anaesthesia by novocacine. The wound is opened or a second incision is made, as the case may be. The distended bowel coming into view is drawn out and an aspiration needle inserted for the relief of gas tension. The bowel is then lightly clamped with a rubber covered clamp as the needle is withdrawn. A large Oschner troca and canula, size 30-F., is then inserted as near as possible through the hole made by the aspirating needle. The bowel is then emptied through the canula and rubber tube at side of canula. A pursestring linen suture is then placed around the entrance of the canula into the gut. The trocar is removed and a thin wall rubber tube is threaded into the bowel through the canula; the pursestring suture is then drawn tight around the rubber tube as the canula is withdrawn. A few sutures tack the bowel to peritoneum, and the wound is closed around the tube. This method is easy of performance and prevents contamination and infection of the peritoneum or wound at the time of operation.

The resulting adhesions between the bowel and the wound and the glazing over of the wound take care of and prevent late infection after the tube is removed. This is the method we use in performing all enterostomies and cecostomies.

DISCUSSION OF SYMPOSIUM ON ABDOMINAL SURGERY.

(Papers by Drs. McRae, Horsley, Royster and Graham.)

Dr. Stephen H. Watts University of Virginia: I was much interested in the very clear presentation of his subject by Dr. McRae. I think it is a paper that should appeal particularly to men in general practice. One important thing that he emphasizes is the fact that the general practitioner often wastes much valuable time in acute abdominal conditions in attempting to make a diagnosis of the exact condition present instead of making a diagnosis that operation is necessary.

Dr. Horseley presented a beautiful method of intestinal suture which I have used and found very satisfactory. I sometimes, in making an end-to-end suture, twist the bowel a trifle, so that the raw space between the leaves of the mesentery may be opposed to the endothlial covering of the intestine. I do not think much pressure of suture is necessary in order to insure cohesion of the adjacent surfaces, because, I believe, in most cases in which you do a suture of this character there is enough infection present, coming from the lumen of the hollow viscus being operated upon—in this case the bowel—to insure cohesion.

I do not know that I have seen any case of sigmoid kink, such as Dr. Royster describes; perhaps due to the fact that I have not looked for it sufficiently. I must say that I am rather skeptical regarding the frequent occurrence of obstruction of the large intestine by adhesive bands; in fact, we make use of this principle in pelvic surgery in that we seek to oppose large intestine, rather than small intestine, to raw surfaces. Of course, I do not maintain that obstruction of the large bowel may not be due to such causes.

Dr. Royster says this kink has not been named. I move that it be called Royster's kink.

Dr. Graham really reported a startling number of cases of intestinal obstruction. We do not have

nearly as many cases as that of intestinal obstruction and we do not have as many post-operative obstructions. We used to have a good many, but not so many now and I think it is due to the fact that our post-operative treatment is different. We are now very careful in feeding slowly and avoiding cathartics.

In intestinal obstruction, particularly, a great deal of time is often wasted in attempting to make a diagnosis of the exact nature of the obstruction instead of making a diagnosis that intestinal obstruction is present. Of course, it is well to make an exact diagnosis if we can without wasting time, as it may influence the location of your incision, but I am usually satisfied when I am convinced that operation is necessary.

We all recognize the value of local anaesthesia in the treatment of strangulated hernia. We can observe the discolored bowel as long as we wish, to determine its viability and, in the meantime, we are doing but little damage to our patient.

Dr. S. S. Gale, Roanoke, Va.: Mr. President, in reference to observing the return of the color to the bowel in strangulated hernia, some one (I forgot whom), I think some Atlanta doctor, though, brought out the point not so very long ago, of the very great advantage in returning the intestine to the abdominal cavity, in order to get the benefit of the heat of the body, which, to my mind, is far superior to the application of external heat. It also allows a better re-establishment of the circulation.

In reference to the sigmoid adhesion of Dr. Royster, my experience has been quite limited, only having observed about three cases, and I wish to mention only one of those cases. In the first place, it is a comparatively new condition to me. I never heard of it until I did through Dr. Royster. The case that I wish to mention was a lady about fifty years old, whom I operated upon for some pelvic trouble—the removal of a tube and her appendix and Lane's kink and Jackson's veil and suspension of the uterus. She recovered very promptly from the operation, but did not recover from the condition from which she had been suffering, and in about two or three months she returned, and in going into her case I found that she complained of a great deal of pain and discomfort in the left iliac region and very marked constipation. I thought that I could palpate a mass in the region of the sigmoid and I was suspicious that she might have a new growth developing. At that time I made an incision through the left rectus and examination revealed only a sigmoid adhesion. We released the adhesion, as suggested by Dr. Royster, and the lady made a very prompt recovery, and has never had any further trouble, and that has been over two years ago.

Dr. W. W. Crawford, Hattiesburg, Miss.: Moynihan has recently said that intestinal obstruction is the particular dark spot on the horizon of most surgeons. He says that in his experience five out of every six cases die. His statistics are not unlike those of most surgeons. It is a well-known fact that this high mortality is not due to the shock of operation, but to the toxemia incident to the obstruction. These patients become rapidly toxic, and if the obstruction is complete and is not recognized during the early hours of its existence and prompt relief is not afforded with a minimum of trauma, the end result will bring nothing but disappointment.

This suggests the importance of stressing Dr. Bryant's old maxim that "You had better be sure than sorry." Most of these cases begin abruptly and are attended with much pain. Pain is the most significant symptom, and unless relieved promptly without the use of opiates, the indications are clear.

Post-operative obstructive symptoms are not as frequently surgical as those of the acute abdomen. A large percentage of the former are septic cases and have a number of adhesions. In some instances the adhesions are so universal that the intestines are set, as it were, in cement. It is, therefore, frequently not practical to break up all of the adhesions, or, if all are liberated, they reform, and, in either event, the patient is prone to the development of obstructive symptoms. The unequal distribution of gases in bowel may produce so much pressure in a coil of intestine that it temporarily compresses some adjacent point. The degree of compression determines the acuteness of the obstructive symptoms. We believe most cases of post-operative obstruction can be traced to the above source, and that if given conservative management, the complication will subside with reasonable promptness. It is our custom to give such a patient morphine one-quarter grain and occasionally 1-100 hyoscine. Wash stomach with liberal quantity of bicarbonate soda solution to be repeated every four hours. No other fluids by stomach. If pulse is weak and there are manifestations of toxemia we give hypodermoclysis glucose solution every six hours. Liberal and continuous application of moist heat to abdomen. Murphy drip of glucose and soda solution.

Now, as to the methods of intestinal suturing. We, of course, congratulate Dr. Horsley on his excellent work. End to end anastomosis though, in the hands of most of us has not proven as satisfactory as lateral. The ease and safety of the lateral technique is attested by its almost universal use.

I think, with Dr. Graham, that local anaesthetic should be the one of choice in all cases of obstruction. The patient is already charged with toxins, and the general anaesthetic emphasizes that feature.

By giving a preliminary dose of morphine and hyoscine, the patient requires a minimum of local anaesthetic and usually does not realize that an operation has been made for several hours after it has been finished.

Dr. Edmund J. Horgan, Fairfax, Va.: I wish to say a word in regard to these adhesions that Dr. Royster called our attention to. He stated that we usually look upon every condition of pain in the lower left quadrant of the abdomen as some pathologic condition of the ovary or some tubal infection. In his discussion on the sigmoid adhesions he did not go into the etiology and in his picture he shows us a drawing which has an adhesion of the sigmoid to the uterus and to the fallopian tube and ovary on the left side. Probably the condition which he has shown us there is due to an infection, and the question is, where that infection came from. Naturally we would consider it an infection which had extended from

the fallopian tube or ovary, or both, and I think one would be justified in doing so. It is a fact that a great many adhesions of the sigmoid are seen in pelvic conditions, and, with the exception of one case, everyone of them which I have seen was accompanied either by an infection of the ovary or fallopian tube, or both.

Dr. G. C. Rodgers, Elkins, W. Va.: I think there is too much tendency to minimize the adhesions of the sigmoid. Dr. Watts tells us that he has never seen the condition, and my opinion is that he has never looked for it. The trouble is usually situated well out of the ordinary surgical field, and if we don't realize that such a condition can and does exist, we are very apt to overlook it. Seeing is believing, and I have seen a number of such cases in my own work and in that of others.

Dr. Deaver, in calling our attention to this, last spring, said that many an ovary and tube had been sacrificed where the sigmoid should have been freed instead.

A few months ago I had a patient referred to me who had already undergone several operations, having had her appendix, ovaries, etc., removed until there wasn't much left for me to do. An exploratory incision, however, revealed that the sigmoid was fastened down by numerous adhesions until it was practically immovable. I freed the gut and closed the peritoneum without doing anything else, since which time the patient has had perfect relief, which condition she experienced from none of her other operations.

In regard to Dr. Grahams' paper, I do not think that there is any question but that we are coming more and more to local anaesthesia, and I think it is far safer in the cases referred to than a general anaesthetic could possibly be.

Dr. Chas. H. Harris, Fort Worth, Texas: Gentlemen, I cannot refrain from saying a few words on the subject of "Intestinal Obstruction." No subject in medical literature has received any more attention than has the subject of intestinal stasis.

The obstruction may be mechanical, due to adhesions or prenatal peritoneal bands or it may be due to insufficient muscular tone. No doubt much unnecessary surgery has been done to correct an intestinal stasis, which should have had a treatment that would have increased the muscular power of the gut instead of pulling harmless peritoneal bands loose and in many instances increasing the trouble by doing more damage to nerve supply to this particular part of the field. In very few instances have I seen only temporary relief in the surgical treatment of these cases.

While the pendulum has been swung so far that I fear we have, in looking for vales and kinks, have lost sight of the pelvis of the kidney, which might reveal a great deal to us. If we would investigate this by catheterization of the ureters and follow by pelvic lavage of the kidney, as well as bacteriological cultures grown from the urine collected from the pelvis of each kidney. In acute obstructions my experience has taught me that it is unwise to administer morphine before you get the history of the patient for an operation as the morphine relieves the distressing symptoms and tends to obfuscate until it is too late.

Dr. Eugene H. Glenn, Asheville, N. C.: One word in reference to the Royster kink. I am glad that he has called the attention of the profession to this condition. I have observed this condition at the time of operation in several cases. I find that when this condition exists that there is obstinate constipation, with pain in the left iliac fossa, which frequently is referred down the left hip and leg. An operation freeing the sigmoid flexure of the colon relieves the symptoms and consequently the conclusion is that the Royster kink was the cause of the pain.

I had a case recently who had been operated on two years previously, right ovary, tube and appendix removed. Pain in the left side was not relieved. She gradually grew more nervous. I did an exploratory operation, expecting to find post-operative adhesions. I found a condition typical with that just shown on the board by Dr. Royster. The operation was followed by complete relief from pain.

Dr. McRae closes: I have little to add to what I have said. I thank the gentlemen for emphasizing some of the points brought out in my paper. I wish especially to thank Dr. Harris for calling my attention to a point I should have made clear: that these acute abdominal cases will not consent to be operated upon if given morphine beforehand. Morphine obscures the condition and frequently makes it impossible to get the consent of the patient to any surgical procedure.

Dr. Graham has called our attention to a number of very important points. I am astounded at the number of post-operative obstructions that he has seen. That has been a remarkable revelation to me in these latter days of surgery. Since we have excluded milk and saline purgatives from the early post-operative treatment, we rarely see post-operative obstruction. I very frequently see a temporary stasis of the bowels which is relieved by hot applications, by changing the position of the patient—even turning them over on the belly. I have used a great deal of eserin with evident benefit. It seems to me that hot applications, change of position, washing out the stomach and colon, the use of strychnine and eserin, have saved me the necessity of operating on many of these cases. These are apparent obstructions of the bowels and certainly are conditions in which such remedies bring relief in the large majority of cases I have had to deal with. There is so much that could be said about obstruction, the nausea and vomiting, no escape of flatus after the early emptying of the bowel, etc.

Choice of anesthesia: With the patient anxious and shocked, I prefer the anoci-association of Crile. I am sure the addition of nitrous oxide decreases the danger. I think it safer than local anesthesia. You avoid psychic shock by the administration of gas and oxygen; you block the nerves by the use of your local anesthetic. The real drawback is that there is only an occasional anesthetist that you can rely upon. You must have an expert anesthetist for the anoci-association.

Dr. Graham's advice of enterostomy in these intestinal obstructions is good. I commend his paper in that especially. It requires a great deal of courage on the part of the surgeon to go in and do an enterotomy, a life-saving measure, in cases of acute obstruction, then go back later

and remove the pathology that caused the acute obstruction.

Dr. Graham closes: Mr. Chairman, I may have done some bad surgery, but I am not lying. I think there are a dozen of my town representatives here. I think it is only fair for you to allow me to call your attention to this class of surgery which I have done. I have been practicing surgery since 1905, and a little since 1901, and I think the surgery done in my town has been pioneer surgery. When I went to Durham I do not think there was a man in the town who could say he had done more than two or three abdominal operations. In the operations done most of them had extensive adhesions or abscesses.

One other point of observation at Durham that I have not seen elsewhere was the amount of tuberculosis—negroes as well as white. I reported thirty-two cases of obstruction by adhesion or abscess. Also nine cases of ileo-cecal tumor, a local tumor in the cecum. Not only have a good many of these operations been done in Durham County; but, with the exception of Wake County, there is no other county that touches us or in our neighborhood that has a hospital. Many of these operations were done in country homes, without a nurse, and many with the assistance of the average country doctor, who had never helped in operations, therefore I bring this experience to you for what it is worth.

AUTHORS' ABSTRACTS.

Surgery, Gynecology, Obstetrics, and Genito-Urinary Diseases.

Crossen's Method of Precluding the Possibility of Unintentionally Leaving Gauze in the Abdominal Cavity. By Lindsay Peters, Columbia, S. C. Journal of the South Carolina Medical Association, January, 1915, pp. 16-19.

There is no surgical error which casts greater discredit upon the practice of surgery, in the minds of laymen, nor so menaces the surgeon with suit for malpractice, as the deplorable and too frequent accident of leaving gauze in the closed abdominal cavity after celiotomy. Notwithstanding this, comparatively few surgeons have adopted a technic which makes the accident impossible, although Crossen, of St. Louis, described, in 1909, a method for its prevention which is simple of execution, economical and time-saving, and gives absolute protection. The method's underlying principle is the elimination of all detached pads and sponges by using instead of them long strips of gauze, each strip being packed into a bag in such a way that it may be drawn out a little at a time as needed. A set of gauze strips for use at an abdominal section consists of four narrow strips for sponging and one wide strip for packing back the intestines. The distal end of each strip is sewn to the bottom of the bag. At operation one bag, containing a narrow strip, is pinned to each side of the abdominal sheet and one bag, containing a wide strip, is pinned just above the upper border of the opening in the abdominal sheet. An inviolable rule in the use of this method is never to cut a gauze sheet, although the temptation to do so comes frequently. Any exception to the rule during operation would be made at the sacrifice of absolute security.

The Operative Treatment of Fractures. By A. R. Shands, M.D., F.A.C.S., Washington, D. C. Virginia Medical Semi-Monthly, January 22, 1915, pp. 501-505.

Dr. Shands says it is more important to know when not to operate than when to operate. He records a strong protest against the too promiscuous operating on fractures that has been done in the past five or six years. He was one of the early operators for fractures, having published a paper on the subject in 1898, but experience has caused him to modify his views.

The greatest danger in operating on fractures is sepsis, which is not always due to faulty technique. Many cases are infected through the blood current. The field of operation in a recent fracture is a most unfavorable one on account of the traumatized tissue, which is unable to resist the invasion of even a low-grade infection. Capillary hemorrhage is very abundant in traumatized soft tissue and cancellous bone, making it impossible to leave a dry wound; the blood clot is often not absorbed by partly devitalized tissue.

Non-operative method should be given a fair trial before operating. Never be in a hurry to operate, if it can be avoided, as by waiting for a restoration of traumatized tissue to normal a more favorable field for operation is presented. If the serrations of the fragments are made to engage, plates, nails, etc., are rarely ever needed.

He urges the use of the plaster of Paris snugly applied over a flannel bandage only; pressure can be regulated by splitting the cast open before it hardens.

My Experience with the Matas Operation of Endoaneurysmorrhaphy. By Hermann B. Gessner, New Orleans, La. New Orleans Medical and Surgical Journal, January, 1915, pp. 598-607.

The author relates a case of varicose aneurism of the femoro popliteal region, operated on by the obliterative method of endoaneurysmorrhaphy with complete success.

A total of seven cases is reported, operated on by the Matas method, without gangrene, hemorrhage or recurrence. Of these the ages varied from 22 to 53 years; all were of negro race, 2 mixed, 5 unmixed.

The aneurysms were fusiform (2 distinct openings) in three instances, false in one, arterio-venous in three; of the latter, two were varicose aneurysms, one arterial varix. Of the seven, four cases (the one false and three arterio-venous) were due to gunshot injury. Four obliterative operations were done, three restorative, no reconstructive.

The mortality of popliteal aneurysm in the Charity Hospital of New Orleans (from 1881 to 1903) is reviewed, showing a total of 33 cases, with 17 cures, 8 improved, 1 unimproved, 7 deaths, a gross mortality of 21.21 per cent for the older methods of treatment.

The operative technics are reviewed. The re-

storative type is applicable to the treatment of sacciform aneurysms, where one aperture alone exists between the vessel caliber and the abnormal cavity of the aneurysm. Here, after provisional hemostasis has been secured, the sac is laid open, and from within it, the one opening which conducts blood out of the artery is closed with Lembert sutures and the caliber is thus restored. In the fusiform aneurysm two openings are closed by suture after incision of the sac (obliterative type).

Test of the collateral circulation as done by Matas is stressed.

Facial Paralysis Occurring in the Treatment of Syphilis. By J. L. Kirby-Smith, Jacksonville, Fla. Journal of the Florida Medical Association, December, 1914, pp. 168-171.

Five cases of facial paralysis occurring in the course of treatment of one hundred and fifty syphilitic patients, with intravenous injections of salvarsan and neosalvarsan, combined with mercurial treatment, is the basis of a report by the writer. Attention is called to the fact that all five of the paralyses occurred in the first year of the infection and during the course of the treatment, all responded to treatment; also that at the time of the occurrence of the paralysis, none of these five patients had active symptoms of the infection. The writer states that it is impossible to say definitely to what drug, if any, or the method of treatment this condition is due; that facial paralysis is not an uncommon condition in the course of syphilitic infections, but the occurrence of five cases in the treatment of one hundred and fifty syphilitics in eighteen months' time would point to the new method of treatment as having something to do with the causation of this condition. Two of the cases of facial paralysis occurred with the patient showing a negative serum. The writer states that only one case of facial paralysis has occurred in the past eighteen months' use of neosalvarsan to the exclusion of salvarsan.

Spinal Anesthesia in Genito-Urinary Surgery. By A. L. Fowler, Atlanta, Ga. Journal Record of Medicine, December, 1914, pp. 391-395.

The writer points out how seldom this form of anesthesia is employed in this section of the country, especially in genito-urinary surgery, where it is particularly useful. During the past two years he has employed it in over thirty cases in his clinic at the Atlanta Medical College and at the Grady (Municipal) Hospital. No claim is made that this form of anesthesia could or will displace other forms, but that it is the **safest form in patients who have diabetes or lame kidneys**. If such operations as supra-pubic cystotomy, enucleation of the prostate, or external urethrotomy are to be attempted.

The writer enumerates the following operations as having been performed by him under spinal anesthesia. Supra-pubic cystotomy, enucleation of enlarged prostates, internal and external urethrotomies, urethral fistulae, peri-urethral abscess with infiltration, varicocele with ablation of scrotum, hydrocele (Doyen's), orchidectomy, and epididymotomy.

In doing prostatectomies he goes a step further than simply employing spinal anesthesia in that a solution of two per cent cocain is instilled into the prostatic urethra with an Ultzmann's syringe to further **nerve-block** this region and prevent **prostato-renal inhibitory reflex.** The writer believes that two of his prostatectomies, both of whom were diabetic, would not have survived the operation under any other form of anesthesia notwithstanding he employed the two-step operation.

Th drug employed was tropa-cocain, five per cent solution, and the quantity injected into the spinal column was fifteen minims made of twenty per cent adrenalin. The technique was that of Dr. Freeman Allen, of the Massachusetts General Hospital.

Shock, Anoci-Association and Anaesthesia. By A. M. Fauntleroy, U. S. Navy, Washington, D. C. United States Naval Medical Bulletin, January, 1915.

The author analyzes the classical work of Crile and his associates and believes that the general principle of anoci-association will play a prominent part in the surgical practice.

An analysis is made of the merits of the various general anesthetics and accepted methods of administration. With reference to Crile's work, the author does not believe that the same ratio of efficiency can be obtained with the nitrous oxide-oxygen in common use as was obtained by Crile and his associates. He points out that at the Lake Side Hospital the conditions are ideal. The hospital manufactures its own nitrous oxide and oxygen, and can insure its even purity and standardization. The anesthetists are trained in the use of a gas which never varies and become more accurately familiar with the anesthetic possibilities than is the case when use is made of the nitrous oxide and oxygen in common use. Any plant, unless great care is continuously exercised, will produce a varying gas.

The author concludes that ether by the open or drop method is the present inhalation anesthetic of choice. **The expert knowledge of administration** should always be the first consideration, regardless of what are the apparent indications or contra-indications. In the **expert** administration of either nitrous oxide-oxygen, ether or chloroform there is approximately equal safety when there are no manifest contra-indications, although ether, especially in unskilled hands, is shown to be as a whole the safest for general use.

There is also a discussion of the merits of the different inhalers in common use.

RAILWAY SURGERY

RAILWAY SANITATION.*

By Clarence H. Vaught, M.D.,
Richmond, Ky.

Mr. President and Gentlemen: When the accomplished President of the Section of Railway Surgery notified me that I was expected to prepare a paper on railway sanitation I at first hesitated, and then there came to me the familiar quotation: "He who hesitates is lost," and that other equally familiar, "He who doubts is damned," and not wishing to be in either class I consented to do the best I could with this subject.

While not a specialist in this particular branch of sanitary science, having a limited opportunity only to observe the necessity of railway sanitation, as my travels have been largely confined to my own state, and my studies have been also limited as compared with those who have been members of state, city or county boards of health, yet I assert there is no surgeon today who would for a moment question the assertion that the brightest star in the firmament of our progress and civilization, from the viewpoint of medicine and surgery, is sanitation. By its application, disease and death, misery and woe, poverty and destitution, have been reduced to insignificant proportions; years of suffering and pain have been anticipated and made impossible; the disease-producing waste places of our country, the plague spots of the city, have been made to rejoice and to blossom as the rose while life and health have been scattered broadcast by this advance of science with a hand as generous as the autumn.

Then the aim of sanitary science, Parkes says, "is to render growth more perfect, decay less rapid, life more vigorous and death more remote; to correct the defects of our surroundings and habits, and while this may not be altogether possible, owing to the necessity of the times in which we now live, any more than we may arrive at an ideal state of existence in a day, yet much has been done and may be done toward that end, and in the future as in our advancement through an increasing knowledge of heredity, sanitary science may act as a powerful ally in improving the character of the race."

It is pleasing to know that, in recent years especially, the attention of more than one eminent scientist has been devoted to sanitation in its various branches. The world has abandoned the old theory that dirt and plagues are dispensations of heaven because of the sins of men. We know now that the penalties were self-inflicted because of ignorance. Even in social and religious circles the physician and the scientist have been the harbingers of the better day when cleanliness and godliness have joined hands and are bringing blessings to the million. The science of sanitation has not only destroyed leagues of dirt but has destroyed a great deal of outworn theology as well. It has preached a new gospel, and its expulsive power has driven false conceptions of health, life, the Almighty and theology to the moles and to the bats. Every discovery aids every other department of human interest, correct conceptions destroy false conceptions; the good of one is the good of all. Everything rises with a rising tide so that the conquest of dirt has lifted civilized man to a higher plane and to a purer sky than he had ever known before.

It is interesting to note that the progress in sanitation has met the same formidable opposition as every other scientific advance has met. It is ever the problem of the human mind to discover why the best methods and the best causes are so often doomed to meet with hindrances from those who should hasten

*Read before Southern States Association of Railway Surgeons, Auxiliary to Southern Medical Association, Richmond, Va., November 9, 1914.

rather than retard. Buckle in his "History of Civilization," Vol. 2, p. 75, tells us that: "In the year 1760 some bold men in the government proposed that the streets of Madrid should be cleansed, and the daring suggestion excited general anger. Not only the vulgar, but even those who were called educated, were loud in their censure. The medical profession as the guardians of the public health were desired by the government to give their opinion. This they had no difficulty in doing. They had no doubt that the dirt ought to remain. To remove it was a new experiment, and of new experiments it was impossible to foresee the issue. Their fathers having lived in the midst of it, why should they not do the same? Their fathers were wise men, and must have had good reasons for their conduct. Even the smell of which some persons complained was most likely wholesome, for the air being sharp and piercing it was extremely probable that bad smells made the atmosphere heavy, and in that way deprived it of some of its injurious properties. The physicians of Madrid were, therefore, of opinion that matters had better remain as their ancestors had left them, and that no attempts should be made to purify the capital by removing the filth, which lay scattered on every side."

Sir Richard Wynne, who visited the capital in 1623, describes a disgusting practice of the inhabitants, and adds: "Being desirous to know why so beastly a custom is suffered, they say it's a thing prescribed by their physicians, for they hold the air to be so piercing and subtle that this kind of corrupting it with ill vapors keeps it in good temper." Buckle, p. 77.

But in spite of all opposition our knowledge of the nature of contagious diseases and of the means of eradicating them has advanced by leaps and bounds and led even to the adoption of precautionary measures for the preservation of health in all classes, from the physician to the housewife. Filth is the enemy of mankind, and to filth alone must be attributed those devastating pestilences of the middle ages, when armies were swept away, cities depopulated, and vast areas were converted into graveyards on account of the ignorance of the times on the subject of the simplest sanitary precautions. The jails of even one hundred years ago were reeking with death, the hospitals were victims of septicemia and gangrene. The death rate in armies, due to the ravages of typhoid and dysentery, is well known to every physician, while infection from bullets was almost as fatal as were the abdominal wounds. The death rate in armies in the earlier days must have been enormous when we remember the beneficent consequences that have resulted from even an imperfect knowledge of the subject of sanitation.

We are made happy no longer by the discovery of laudable pus. No longer are we compelled to do a primary operation to save the life of the victim. Hospital gangrene has been relegated to the limbo of the dead past; puerperal fever and sepsis no longer hang like a pall over the lying-in room. Smallpox, that loathsome disease which we once dreaded, has been shorn of its terrors. Diphtheria, the etiology of which was so long a subject of discussion and inquiry until the great Klebs discovered its bacillus, which discovery was succeeded by the advent of the serum for its cure, has lost its terrors, and we may confidently predict the speedy banishment of this terrible disease from the earth. Hydrophobia is now controlled, thanks to the great Pasteur, for the attenuated virus given early will modify the effects of this disease. Kill off the worthless dogs and muzzle the others and hydrophobia will have had its day.

Typhoid fever and dysentery, the two camp pestilences, until a short time ago defied the most powerful efforts to stay their advance. Now the cause and prevention of both are known and their ravages are being effectually fought, the typhoid bacteria by vaccination, and the dysentery parasite by the sterilization of drinking water. During the Spanish-Amer-

ican war there were 20,000 cases of typhoid reported among the American soldiers, and in less than three months there were 1,600 deaths. Now, we have an army of over 80,000, fully half that number in the field, and hardly a single case reported in a year. Austria, Great Britain, France and Russia now vaccinate to combat typhoid.

Yellow fever, the former blight of our Southern territory, with its black vomit and its delirium, with its coma and convulsions, will soon be completely wiped off the face of the earth. The desirable condition already reached in the Republic of Mexico and the Canal Zone is another triumph for sanitation. Tuberculosis, the annual toll of which in our country is estimated at 140,000 lives, had been reduced from 200 to 150 per thousand by sanitary science, and the day is coming when, we believe, this scourge will disappear. The masses will then be willing, no doubt, to give a fair share of praise to the great army of unselfish workers who have garnered sheaves of triumph for the whole race by the application of the principles of sanitation.

The efforts just now to stamp out the bubonic pleague in New Orleans by the city, state and federal authorities is an indication of the widespread knowledge of causes. In former years the effects of this dreadful disease would have engaged the attention of the interested, now the attention is directed to the roots of the disease. The removal of filth and the rigid enforcement of quarantine regulations have kept the deaths to the number of six, with but twenty-five cases in several months.

From the same city of New Orleans comes an announcement of the greatest importance concerning the etiology and treatment of one of those local conditions which has not only annoyed thousands of sufferers but up to this time has defied our best efforts to arrest its progress, a condition which has played a more important role in the human economy than we have believed. On September 14, Drs. C. C. Bass and F. M. Johns, of the Research Department of Tulane University, read a paper before the New Orleans Parish Medical Society, giving the results of their study of eighty-seven case of pyorrhea alveolaris. In eighty-five of these cases they found an ameba—"the Entameba Buccalis," which they believe is the cause of the disease. The early connection of this condition with nephritis in the minds of the medical profession may not be entirely fanciful, for the frequent association of the two conditions seems to have been a matter of common observation. It is a pleasure to note that these investigators believe that this widespread and distressing condition may be prevented by brushing the teeth daily with a few drops of the fluid extract of ipecac in water. Thus we have another sanitary step and another sanitary triumph.

Every great nation has been busy during the past fifteen years in building up a fine medical corps. In the hospital service are employed men who are the flower of the profession in their respective countries. Sanitary science has played a noble part in the work that has been done, and there can be no doubt that these great powers have copied much from the United States.

I hope that you will pardon this digression from the main theme, but I am impressed with the fact that sanitation is the hope of the race in the future, as it has been in the past, for the curing of its ills. What has been accomplished in the general field of medicine will be acomplished in the particular, so that the subject assigned me, "Railway Sanitation," cannot be different from sanitation off the railway. There is not much data at hand for focusing this particular subject before you; it is comparatively new. The best information, possibly, that we have comes from the United States Public Health Service. There has been issued a bulletin by Dr. A. D. Foster, Past Assistant Surgeon, dealing with this subject at Asheville, N. C., from which I quote:

"Upon arrival at Asheville, as soon as the passengers have disembarked, the car is shunted

to the sidetrack in the railway yards, which is used exclusively by cars that are undergoing cleaning and disinfection. On each side is a platform several hundred feet long, and built on a level with the floor of the car.

The ventilators and windows of the car are tightly closed, the berths are taken down, the blankets, pillows and mattresses are spread out, so that the formaldehyde gas may have access to the contents of the car. When this has been done three galvanized iron pails are placed on the floor of the car, and one at each end, and one in the center. In each pail are placed 500 cc. of commercial formalin and 250 grains of potassium permanganate, and the doors of the car are tightly closed. The car remains closed for about twelve hours. The windows and the doors are then opened to air the car and free it from gas. All carpets, upholstered backs and seats, and blankets and pillows are removed from the car and placed on the platform in the open air. Dust is removed from the moveable seats and backs and carpets by means of compressed air, the force of which is so great that not a particle of dust is left. The hose furnishing the compressed air is taken inside the car and the dust is removed with the same thoroughness.

"A force of car cleaners is then put to work with buckets of hot water, and by means of soap and scrubbing brushes the floor of the car is cleansed, the woodwork being wiped off with damp cloths. Drinking water tanks and cuspidors are taken out on the platform and cleaned. The tanks are scrubbed inside and out with hot water and sapolio, rinsed with clean water, and then placed over a steam pipe and sterilized with live steam.

"A small quantity of formalin solution is also placed in each spittoon. Once a month the tanks used for storing water which is used for washing purposes in toilet rooms are flushed out and cleansed. Owing to the care which must necessarily be used in washing woolen blankets, they are periodically shipped to special laundries, experienced in this sort of work, where they are washed and combed.

Besides the fumigation with formaldehyde gas, the toilet rooms are cleansed mechanically by scrubbing the floors with hot water and soap, and an acid solution is used to remove stains from the hoppers in the closets.

Cleansing and Disinfecting Day Coaches.

If carpets are used in the car they are removed and carried out on the platform, where the dust is removed by means of compressed air. The upholstered seats are cleansed by the same means. One of the places in the car where dirt is frequently lodged is behind the steam pipes, which run along both sides of the car. It is found that compressed air under a pressure of from 80 to 100 pounds is the best means to dislodge this dirt.

On and behind these pipes is where the passengers are likely to expectorate, and in order to thoroughly cleanse these parts of the car a hose delivering live steam is carried into the car, and the pipes and spaces between thoroughly steamed. After this has been done the floor of the car and the toilet rooms are scrubbed with soap and hot water. The hoppers of the closets are steamed, and the stains removed with a weak acid solution. The drinking water tanks are removed and scrubbed with hot water and sapolio, inside and out, and are then steamed, care being taken that the steam hose does not come in contact with the interior of the tank.

Cleansing Mail and Baggage Cars.

Dust is removed from the interior of the cars by means of compressed air, after opening all the doors and windows. The floors are scrubbed with soap and hot water and the walls rubber down."

The thorough manner in which Dr. Foster deals with the subject would hardly be practicable in general use as it would require more time than most railways would be willing to grant. Neither would such thorough disinfection be necessary at other places. It is essential that such work be done at Asheville because of the many cases of active tuberculosis carried to and from this point annually. The sleeping cars are allowed to be sidetracked for nearly twelve hours, giving ample time for the work of disinfection.

It would be a remarkable achievement if we could evolve some way to provide better sanitary protection for the large number of railway employes for it is these that make up the greatest number of maimed and wounded in railway disasters. If we could have all the railways of the South adopt some uniform and efficient first aid service to their injured wards, something worthy of this great profession whose aim has ever been to lighten the burden of the suffering, would have been done. Last May in Louisville, Ky., Dr. Rob-

erts suggested the idea of a hospital car such as he had seen. It was built at the suggestion of the chief surgeon of the Rock Island system. A discarded box car had been rebuilt, with doors cut in either side, and painted in white enamel. It was equipped with sterilizers, operating tables, surgical instruments, portable stretchers, beds, etc. When not out on the road it was kept on a siding. First dressings were there applied. Many lives, no doubt, are lost by transporting the injured over long distances without first having skilled aid. I have seen this many times in my own practice; many patients have been brought in filthy and exsanguinated after having had first aid treatment.

Just a word in passing as to cleansing these wounds. Gasoline, which I have been using for some time, acts admirably in removing the grease and grime. This should be followed by a liberal application of iodine, pure or half diluted with alcohol, which will render the wounds in the best possible condition for the application of first dressings. After the first sterile dry dressing all subsequent dressings are wet; 1-500 or 1-250 permanganate

A committee consisting of three members of the Kentucky State Association Railway Surgeons was appointed last year to draft suitable resolutions and recommendations for first aid instruction and equipment for railroads in Kentucky, and their report was, in part, as follows:

1. The equipment of passenger and freight trains, and all shops and passenger stations, with standard first aid packages, tourniquets, stretchers and other surgical necessities.

2. Systematic first aid instructions to train crews, foremen and station men; attendance upon such course to be compulsory for employes.

3. The equipment of hospital cars to be kept at convenient points and used as dressing stations for injuries received in yards or shops, and to be taken out to wrecks as needed.

It would be well for this young, though strong organization, to adopt some such recommendations, and have copies of them sent to the different officials of all railways operating in the South.

I am quite sure that we could have such precautionary measures adopted as herein suggested. The time has come when these officials place a much higher estimate upon the recommendations of its surgeons than they did a few years ago. Years of observation have convinced them that they have no better asset or paying dividend than the capable railway surgeon. It would be interesting to know the amount of money that these surgical staffs have saved the railway corporations, even in the South, by preventing needless and often vicious personal injury damage suits. The surgical staff have done much to protect the railways against unscrupulous characters who institute damage suits on the slightest pretext or none at all.

I have never known with what ideas of justice or truth the assertion is made by some of our friends at law that railway corporations are made up of undesirable citizens. I would rather take my chances with these corporations than with those who accuse them. My observation has been that the most undesirable citizen is the man who tries to get something for nothing. So far as I have been able to judge, the railway officials expect and demand the best of attention to its injured wards. Nor have I known of any discrimination having been made between the employes, the traveling public, or that great army of the unemployed who, as trespassers on the right of way, are being daily crippled or killed.

And now, Mr. President, I have given but a brief and fragmentary sketch, often discursive, of some of the achievements of sanitation. I have not confined myself closely to the subject for obvious reasons though I hope I have touched the salient points. My paper is already too long, though the subject is so interesting that I could spend much more time in its discussion, and then would have indicated but a few of the triumphs of sanitation. Neglect of sanitary precautions is at this time regarded by every sensible person and by

every world power as suicidal, and history shows that the destiny of communities and even of nations may hang upon obedience to sanitary laws. All progress in medicine, for the past quarter of a century particularly, is intimately associated with it. Under its stimulating impulse we have overcome one obstacle after another. With our faces toward the future we see that it is as bright with promise as the road over which we have just come. The relief of human suffering is the goal toward which we are ever moving; truth, justice and conscience beckon us on. In their light we must labor on until that time comes, as it surely will, when false systems and errors that debase, together with contagious disease, will be forever driven from the earth.

We are beginning now to see the dawn of a better day. With education and common sense, with health secured and protected, universal peace, justice and liberty will be the order of the day. Then there will be an elect group, an aristocracy of health not only more intellectual than ever before, but a new stock healthier, stronger, taller, handsomer, constituting a grander civilization.

The list of those who have made these conquests possible is a long and illustrious one. In justice we cannot call it the roll of honor, for the names thereon are legion. "Yet bacteriology, microscopy, physical therapy, the X-ray, which, with its mystic and even magic power has but just fairly begun its assistance in conquering disease," the laboratory, and finally, the man at the bedside, these and more have been conspicuous in the fight for the extermination of the invisible and subtle enemies of mankind. In fact, every branch of our profession has stood four square for every principle or practice that has offered a return in the prevention of disease, or the amelioration of human suffering. "The downtrodden and lowly have been blessed by it, they have sacrificed themselves on each of the hard fought fields that served as stepping stones in the world's progress. And I speak but the truth of history when I say that this profession has been in the advance guard of civilization in all its triumphant march.

But better than all this there have been unnumbered thousands of patient heroes, that type of which Will Carlton wrote, whose unwritten lives have been devoted to the relief of individual suffering and wretchedness, and who must forever remain unknown except by those who will read the "short and simple annals of the poor."

When all for which we stand shall have come to pass the public must give us a place among those who have done something at least to cement the ties that will hold in a lasting bond the brotherhood of man. Then, too, it will be known that this was, and is, and must remain the greatest profession on earth.

"He fought a thousand glorious wars,
And half the world was his,
And somewhere up in yonder stars
Can tell what greatness is."

FRACTURES: HOW BEST TO GET UNION.*

By Stephen Harnsberger, M.D.,
Catlett, Va.

I am not a surgeon. Therefore I did not come here to teach surgery. I came here to call attention to two possible errors which seems to me should be given some deference and explanation. One is ethical—the other technical.

Ethical Error. For a number of years nearly every medical and surgical meeting has had one or more papers on the treatment of fractures. In fact, experienced surgeons focus so much attention on delayed union, non-union, faulty end results and malpractice suits that the general practitioner staggers under his responsibility. In fewer words, it sets on his nerves. It is not so much the "direct fix-

*Read before Southern States Association of Railway Surgeons, Auxiliary to Southern Medical Association, Richmond, Va., November 9, 1914.

ation of fractures" by the use of screws, metal plates, steel wire, etc., which gives him concern as the eternal fixation of his mind on the possible gloomy outcome of the fractures he is called to handle—all made so by the constant and perhaps proper harping of those who are best qualified to know and to teach such things. And then he is doubly confused by the apparent inability of surgical specialists to arrive at anything like unanimity of technic in treating fractures. Formerly, I went to these patients with more or less confidence, and my success was gratefully reassuring. Latterly, however, I have heard so much from and read so much by those who devote themselves to this special work that I now feel uneasy and unequal to the task. This may or may not be a misfortune to the patient whose good I have at heart. But, however it is, there is little to give encouragement or incitement to the physician. His lack of proper confidence in his powers to accomplish may so warp his interest that through neglect, which is the natural sequence of restrained effort, he might invite gross injury or worse disaster to his patient. Now, it seems to me that a conservative compromise or more feasible standard of treatment of fractures should be reached, and until it is reached the general practitioner will continue to go to his fracture cases vividly conscious of this bar to his comfort, and possibly to that of his patients. Surgeons should let up on harping or else show us general practitioners how to get back our lost animated spirits.

Technical Error. I shall briefly mention some tried out principles in the treatment of fractures, and then give a word to one aspect of the question not usually or not at all dwelt upon by others.

(1) Prevent infection, whether from without or from within. The essential is to clean up and keep clean.

(2) Go slow. Do not be in a hurry to operate except to cleanse the wound in compound cases. Any time in two weeks will do to correct deformity.

(3) Get the bones reduced and be sure of it by X-ray control, if possible.

(4) Keep the bones reduced by cast, weight and pulley, or splints, if possible. Only use wire when really necessary, and plates never or rarely.

The scientific care of fracture consists of doing what is right at the right time for the particular fracture and the particular patient. Here there can be no contradiction. Each procedure has its place, and in its place is scientific. I shall leave all this without further comment and return to the technical error I have in mind.

It seems to me that there has been too great effort to hurriedly put the fragments in too rigid alignment, and a disposition to keep the parts too rigidly immobilized. That may and does do in some robust patients. But it has been my observation that in the very young, frail and elderly persons we should examine fractures frequently and never apply casts or splints tighter than to conform exactly and easily to the contour of the part treated. A tight cast or splint may, and often does cause traumatism (or inertia, which is worse) to the skin, muscles and other soft tissues, presumably to the fragments and to the ends of the apposed broken bone. It assuredly modifies nerve action and interferes with the circulation of the blood, etc., and thereby hinders healing by limiting or inhibiting the production of lymph and callus, and probably may be the cause of viscous adhesions with or without infection.

To illustrate: We know that the head of the femur is less supplied with nutrient vessels than any other part of the body. Then it is reasonable to believe that intracapsular fractures are less responsive to treatment than any other fractures. Probably we all agree on this point. I have seen nine cases of intracapsular fractures. Five were put up in casts or splints under the direction and manipulation of recognized surgeons, non-union [illegible], ranging in age from 50 to about or fully 100 years, were left by me to sand-

bags, weights and pulleys, concentrated food, digestants and tonics—union. Now, why did the four cases recover and why did the five cases not do so? This is a timely question, and one I would like to have answered. Granting that apposition was as perfect in each case, could the successful result in the four cases have been due simply to greater nutrition generally, with a special increase of reparative material at the point of fracture, or was it in part due to the simultaneous irritation of the ends of the bone fragments—the extra latitude of movement exciting (by grating of fragments) a greater plastic exudation and physiologic bone cell proliferation? Why not do at first what we are so frequently told has to be done later—secure the development of callus by less rigid fixation and at the same time get the added stimulus of more frequent examinations? Nor should we lose sight of hostile somatic influences. If we always did this, in my humble opinion, we would have less faulty unions and less faulty end results to worry us.

REFERENCES.

(1) Author's paper, May 15, 1906.
(2) Dr. W. P. Carr, Washington, D. C.

DISCUSSIONS.

Dr. Joseph Graham, Durham, N. C.: Mr. Chairman, I had not expected to say a word, but it is a very hard matter for a surgeon to keep absolutely quiet while fractures are being discussed. I congratulate Dr. Harnsberger on his paper and consider his suggestions very good indeed.

The matter of compound fractures, of course, is a very serious one, and I agree with Dr. Harnsberger that two weeks is a sufficient time to allow to elapse before correcting the deformity, even if the fracture is compound. If we operate immediately after the injury we are more liable to have infection to develop than if we wait. In compound fractures I believe in cleansing the wound by scissors and forceps, and I believe in placing bones together in apposition, then I believe in closing that wound and closing it loosely for drainage. I do not use any antiseptic in the wound whatsoever. I do not add any insult to the injured tissues by pouring iodine into the wound. I have not put a plate in a compound fracture. I have not used the wire and have not taken it out. I believe that the thing to do is to convert the compound fracture into a simple, closed fracture, then if infection develops, treat the infection. If by repeated examination by the X-ray you see you are not going to get union, then it will be time enough to correct the deformity.

I agree very heartily in the doctor's remarks in regard to the bandage and tight splints, but the thing I am struck with in hearing the articles in regard to these bad results of fracture—so many cases of ununited fractures—I do not know where they come from. We do not claim to handle fractures any better than anyone else, but it is a very seldom thing we have ununited fractures.

Dr. Southgate Leigh, Norfolk, Va.: As usual, Dr. Harnsberger has given us excellent advice, and I can add but little to what he has said. The use of Tr. Iodine, in wounds to be closed, is probably bad practice. Possibly if diluted it may not interfere with prompt healing. Our custom for years has been to wash out soiled wounds with bichloride, 1-500 or 1-1000, followed by salt solution.

I do not think our presiding officer understood why I advocate operation in nearly every case of compound fracture. My chief reason is to get rid of infection.

Dr. Eve: Don't you treat a compound fracture as infected?

Dr. Leigh: I do. But I try to destroy the infection sufficiently to get clean wound healing.

For many years I have seen no cases where bichloride caused poisoning or severe local irritation.

Tincture of iodine is ideal for open wounds, but not for those that are to be closed.

Dr. H. P. Linsz, Wheeling W. Va.: I congratulate Dr. Harnsberger for being so brave as to present that paper here after all we have said this afternoon. He has thrown a boomerang into the ranks. We are all taking notice and lying low.

Dr. Stephen Harnsberger, Catlett, Va.: I have had no non-union and only one case of infection. I rarely use iodine and never bichloride of mercury or carbolic acid. I generally use sterile water. It is a pretty poor section where I live, and if I haven't anything else, I use the common Epsom salts in solution—wet dressings all the time. They are much more comfortable—seem to keep down infection, and I have had pretty good results.

EYE, EAR, NOSE AND THROAT

SOME RECENT SURGERY OF CRANIAL NERVES FOR THE RELIEF OF HEADACHE AND OTHER NEUROSES.*

(Second Paper.)

By H. H. Martin, M.D., F.A.C.S.,
Savannah, Ga.

My first paper under this title, presented before this section in 1913, was limited to alcoholic injections of Meckel's ganglion as practiced by Sluder and others, containing a report of but one case of my own, my object being to present for discussion a comparatively simple and effective surgical procedure which had not obtained the recognition it deserved.

The one case reported last year is and has been entirely free from the distressing symptoms complained of before the injection, and I have since that time injected Meckel's gangloin in two other patients with equally good results.

In this second paper, under the same title, I have to offer in the way of personal experience on the living subject three injections of the ganglion of Gasser through the foramen ovale as practiced by Hartel and others, having for its object the relief of trigeminal neuralgia and also conduction anaesthesia, or in other words, local anaesthesia of the area supplied by the fifth nerve, for various surgical operations on those parts.

The literature of this procedure is quite extensive, and those who successfully accomplish it have permanently adopted it as a part of their armamentarium.

My own experience at present is limited to three injections in the living subject and to numerous experiments on the skull and the cadaver. I can safely say, however, that any one with a thorough knowledge of the anatomy of the parts and a sufficient experience with the cadaver will not find it very difficult of accomplishment. It is quite apparent that the procedure is a delicate one and requires in addition to a thorough knowledge of the anatomy of the parts some surgical skill and dexterity. The needle will necessarily pass very near to important blood vessels, principally the internal maxillary artery which lies in close proximity to the inferior maxillary nerve in the spheno-maxillary fossa and sends a small meningeal branch through the foramen ovale. If properly directed the needle may enter the foramen spinosum or the jugular foramen or an anomalous foramen transmitting an emissary vein known as the foramen Civinii, occasionally found just below the foramen ovale as shown in this cut. If the needle be passed too far through the foramen ovale the cavernous sinus, or even the internal carotid, both of which are in intimate relation with the gangloin, might possibly be injured, but all such accidents can be safely guarded against, and the procedure, while a formidable one, is not so formidable as the surgical extirpation of the gangloin, while the desirable results are equally good and the undesirable results, such as paralyses of other cranial nerves, weakness of the muscles of mastication and neuroparalytic keratitis, are never so bad. In fact, Camp says:

"A neuroparalytic keratitis so common after gasserectomy has not occurred (in his cases) after the destruction of the ganglion by injection even though the cornea be anaesthetic."

Hartel, on the other hand, lays great stress on this untoward and deplorable after result and contends that it must be very carefully guarded against. He confines the patient to the room for at least ten days following the operation; the eye is protected with a watch crystal dressing, a boric acid ointment is ap-

*Read in Section on Ophthalmology, Rhinology, Otology and Laryngology, Southern Medical Association, Eighth Annual Meeting, Richmond, Va., November 9-12, 1914.

plied twice a day or more often and atropine is instilled on the appearance of the least bit of redness. This is continued for eight days, and then the patient is required to wear automobile goggles for several weeks and protective glasses constantly thereafter.

The indications for injection of the Gasserian ganglion are the same as those for Gasserectomy, namely, severe tri-facial neuralgia, for which the cause cannot be discovered, or, if discovered, cannot be removed, and cases in which a painful surgical operation is necessary in the area supplied by the fifth nerve and a general anaesthetic cannot be given. There are no serious contra-indications, heart disease, high blood pressure, kidney lesions, etc., while increasing the seriousness of the situation are not contra-indications, some measure for relief is necessary and the injection is less dangerous than Gasserectomy.

The technic has been described by many writers. I have selected for this paper the descriptions furnished me by Hartel, of the University of Halle, and Camp, of the University of Michigan. The latter describes the operation as follows:

"No general anaesthetic is used, but the patient may be given a dose of morphine hypodermically about fifteen minutes before the injection or bromide, as thought desirable, and the skin of the cheek may be frozen. I have not used these measures in the cases above recorded. The patient sits in a chair, preferably with a head rest. His mouth is held open about ½ inch with a piece of cork or mouth gag. He is requested not to attempt to talk, but to answer by gestures or by arranged signals, such as: raising the right hand, 'yes'; left hand, 'no,' etc. The skin of the cheek is made aseptic with benzine and iodine and under aseptic precautions a sharp needle or trocar is inserted through the skin opposite the lower border of the sigmoid notch and pushed inward and upward and backward through the fascia and muscle; this is then withdrawn and a hollow needle about 1.2 mm. in diameter and 10 cm. long takes its place. This needle is marked in centimeters and is sharp pointed and has an accurately fitted trocar, a little longer than the needle, with a rounded end. With the trocar in place the point of the needle is then pushed through the skin and muscle in the same direction as the trocar, but with more caution, so as not to injure the blood vessels. The needle is gradually pushed through the spheno-maxillary fossa to the foramen ovale. Contact with the inferior maxillary division in the neighborhood of the foramen ovale causes sharp neuralgic pain in the distribution of that nerve, and as soon as one is satisfied that the needle point is in this situation a few drops of 1 per cent solution of cocaine in alcohol are injected through the needle and an interval allowed for it to take effect. There should be then an analgesia of the skin in the distribution of the inferior maxillary nerve and also an analgesia of the parts at the needle point. Several trials may be required to produce this analgesia. After this has occurred the outline of the foramen ovale is made out with the needle point and needle pushed through the foramen (not over one centimeter) until the patient complains of a sharp neuralgic pain over the orbit. One cubic centimeter of the alcoholic solution of cocaine is slowly injected at this point. The needle is left in place until tests show an analgesia of the entire distribution of the tri-facial nerve which, in my cases, has occurred in less than ten minutes. The needle is then withdrawn. The appearance of analgesia in the supra-orbital region is necessary to give assurance that the needle has actually passed through the foramen, for the proximity of the foramen rotundum to the foramen ovals makes it possible that alcohol simply injected into the spheno-maxillary foss would cause analgesia in the two lower divisions of the fifth nerve. The great variations in the size and shape of the skull in different individuals makes it impossible to give more definite directions for reachng the foramen ovale, but I am convnced that he who trusts to measurements oi the skull and theoretical angles will be less successful than he who first practices extensively on various cadavers and then trusts to his sense of direction and the correct interpretation of the physiological phenomena caused by the passage of the needle point."

Continuing Camp says:

"The Hartel method differs from the one described here in that he starts from the mouth and passes the needle upward and backward outside the alveolar process. The only argument in favor of this method is the fact that the long axis of the oval foramen lies antero-posterior, but this advantage is largely illusory. I have never tried this method but I have seen it tried unsuccessfully, and there have been reports of its trial by Alexander and Unger and others, in which they were also unsuccessful in passing the needle through the foramen ovale. The foramen ovale [illegible] and passing the needle

through the cheek allows a better sense of its direction. There is certainly more danger of infection by the Hartel method and A. Simons records a fatal meningitis in a patient injected by this method."

You will observe that the foramen ovale in this specimen has its long diameter in a transverse direction.

Camp must have quoted from some of Hartel's earlier writings. I wrote to Hartel for a description of the operation as performed by himself, which is as follows:

"Patient is prepared by hypnotic on preceding evening and morphine before operation. Perfect surgical asepsis is essential. For the injection one uses a 2 cc. record syringe with a pure nickel needle, 10 cm. long and 0.8 mm. thick, with a blunt, beveled point, and a sliding marker; so-called 'ganglion canula.'

"One must also be provided with a metal centimeter scale.

"The operation is performed under local anaesthesia. We first anaesthetize a horizontal strip of skin in the level of the upper teeth, extending from the naso-labial fold to the anterior border of the lower jaw. For deep anaesthesia we use small amounts of 2 per cent novocaine solution. It is necessary to use this solution only when one comes in contact with the nerve trunk. In excitable patients it is advisable to employ a light general anaesthesia with ether or with the chlorethyl spray.

"It is the purpose of the puncture to reach the base of the skull at a depth of 6 cm; the needle point is advanced within the skull a maximum of 1½ cm. These distances are controlled by means of the sliding marger on the needle.

"The needle is inserted through the skin of the cheek opposite the second upper molar tooth and is guided beneath the mucosa by means of a finger inserted in the mouth, between the upper jaw and the ramus of the lower jaw until it reaches the base of the skull, where it meets with the boney resistance of the infra-temporal surface. The direction of the needle is of great importance; viewed from the front, it points toward the pupil of the same side; viewed from the side, it points to the articular tubercle of the zygoma, which lies just in front of the articulation of the lower jaw. Now, feeling our way, we reach the foramen ovale and penetrate within the skull. If resistance is still felt, we are in the wrong axis ,and must repeat the puncture in a somewhat different direction.

"Information given by the patient concerning radiating pains or paraesthesia will serve to orient us as to the position of the needle. A preliminary injection of novocaine which is followed immediately by anaesthesia of the cornea indicates that we have reached the ganglion.

"One cc. of the solution is now injected drop by drop as the needle is pushed forward. The solution used for this purpose is 70-80 per cent chemically pure alcohol."

You will observe that the operations described by Hartel and by Camp do not differ materially. Both enter through the cheek, Hartel evidently having abandoned the intra-buccal route. The objections put forth by Camp to the intra-buccal route are unanswerable. The danger of infection alone is enough to throw the balance in favor of the extra-buccal route. Camp chooses a point opposite the lower border of the sigmoid notch, Hartel a point opposite the second molar tooth. The latter is, in my opinion, to be preferred, because it is on a lower plane and is a more definite starting point. Other things being equal, the lower the point of entrance the more easily will the foramen be located, since it presents its greatest lumen in a direction downward and forward. As you will observe in this specimen, if the needle be entered too high up it approaches the foramen obliquely, while if it be entered lower down it approaches the foramen in a direction almost perpendicular to the plane of its circumference, a distinct advantage.

Hartel anaesthetizes the skin of the cheek, Camp does not. Camp's description is a little more definite as to the subjective sensations of the patient, but he depends on supra-orbital pain to definitely establish the fact that the needle is in the ganglion, while Hartel injects a few drops of novocaine and expects immediate corneal anaesthesia.

Camp uses but one solution, 1 per cent cocaine in 95 per cent alcohol. Hartel uses two solutions, 2 per cent novocaine for local anaesthesia, and 70 to 80 per cent c. p. alcohol for injecting the ganglion. Camp operates with the patient sitting up. Hartel does not

Fig. 1. On right side needle is shown in correct insertion for injection of ganglion. On the left side a wire was passed through needle and out through cerebrum. Needle was withdrawn and wire left in situ. Note wire passing through posterior horn of lateral ventricle.

state whether the patient should be sitting or lying. A careful study of these two descriptions of the operation will enable any one to master its details in a short time.

In my experimental work on the cadaver I have adopted a routine of pointing the cannula so as to strike the concave surface of the bone a little above the foramen and then by elevating the proximal end of the needle and careful manipulation, the point readily slips into the foramen.

I wish to emphasize here, however, that simply entering the foramen without entering the body of the ganglion will not suffice; the injected fluid must enter the body of the ganglion and not simply one of its margins or divisions.

As to the position of the patient, the dorsal

Fig. 2. Same as Fig. 1. Antero-posterior view.

position is for many reasons more desirable; you have better control of your patient under all conditions, and especially so should a syncope take place, which is not uncommon in any operation where the patient is conscious. As for the instrumentarium, an ordinary hypodermic outfit for local anaesthesia, and the needle described by Camp, will be all the instruments necessary. If the needle be plainly marked in c. m. neither the sliding marker nor the metal scale mentioned by Hartel will be required. As for the preliminary introduction of a sharp trocar through the skin, muscle and fascia into the spheno-maxillary fossa, this is not necessary to the correct performance of the operation, but there is no objection to it.

As to anaesthesia, a light general anaesthesia is preferable if not contra-indicated. If, however, general anaesthesia is contra-indicated, I should in all cases anaesthetize the skin, muscles, facia, etc., before introducing the needle. I should in all cases inject novocaine into the spheno-maxillary fossa, and I should also in all cases follow Hartel's idea of injecting novocaine into the ganglion before injecting the alcohol. The alcohol should in my opinion be 95 per cent c. p.

The precautions and after attention pre-

scribed by Hartel should, in my opinion, be closely followed.

In case it should be advisable, as suggested by Hartel, to use a light general anaesthesia, use ethyl chloride for primary anaesthesia, quickly introduce the needle while the patient is momentarily unconscious, inject the novocaine, and then allow the patient to recover consciousness, and proceed with the alcoholic injection.

The immediate results of the injection are a burning sensation in the entire half of the head, followed by complete analgesia of the area supplied by the fifth nerve, coming on gradually and becoming complete within ten minutes, most operators leaving the needle in situ until this has occurred. The analgesia should be manifest in the mucous membranes as well as in the skin, and should be positive in the cornea of the injected side.

There should be anaesthesia to cotton or hair, but not necessarily to touch. The loss of temperature sense should be positive over the entire area and these manifestations should be permanent; if they show diminution within a few days the injection must be repeated. Hartel says, "In a few cases one injection suffices; in most cases good, permanent results were obtained only after two or three injections."

Among the untoward results sequelae and complications that have been reported, were transitory paralyses of other cranial nerves, dizziness and nausea at the time of injection, unilateral weakness in the muscles of mastication, broncho-pneumonia, pulmonary infarct and neuro-paralytic keratitis.

In this connection Hartel says:

"The most important complication is injury to the cornea, so-called keratitis neuro-paralytica. In the beginning when the eyes were not properly protected we had five patients who developed corneal ulcers. Two recovered; three in whom treatment was neglected developed leucoma; which in one case, a diabetic, resulted in loss of the eye. Since we have carried out post-operative treatment as described we have had no keratitis."

There are numerous case reports in the literature of this operation, all tending to prove that ganglion injection should be tried and repeated, if necessary, in obstinate cases of tri-facial neuralgia. In contrast to the surgical resection of the ganglion the operative risk of ganglion injection is nil, even in the weakest patients. Case reports indicate also that injection of the ganglion of Gasser for conduction anaesthesia is feasible and practicable.

I will limit case reports in this paper to those

Fig. 3. Left side, needle in correct position for injection of ganglion.
Right side, needle was withdrawn and stylet left in situ.
Contraction of skin has drawn head of stylet outward.
Position of insertion should be in the naso-labial fold a little above and external to corner of mouth.

furnished me by Prof. Hartel, the one from the surgical clinic of the University of Halle, the other from the surgical clinic of the University of Berlin, and the three cases of my own.

"Of 24 cases (University of Halle) we obtained in 14 good, permanent anaesthesia. These have remained free from recurrences, except two cases which were complicated with hysteria. Of ten cases with poor anaesthesia, five have remained free from recurrences, two have had mild attacks of pain but are greatly improved, three had again severe attacks of pain after four or five

months. These cases became again completely free from pain after repeated injections. Complications: one broncho-pneumonia, recovered, one pulmonary infarct recovered; occasionally hemorrhage in the cheek, of no consequence. In two cases there was abducent paralysis. We believe this can be prevented by observing the eye movements during the injection. There are practically no disturbances due to involvement of the motor portion of the nerve and of the sympathetic. Paraesthesias frequently appear in the anaesthetized area, which in most cases do not disturb the patient. In two cases, which have been referred to, and in whom hysteria could not be excluded these paraesthesias gave rise to severe complaint on the part of the patients; in those cases, although there was objectively complete anaesthesia, we cannot claim a cure."

Fig. 4. Same as Fig. 3. Side view.

"'Conduction' anaesthesia of the ganglion has been practiced by us in sixteen operations (University of Berlin) in nine cases both sides were anaesthetised. The operations were as follows: Six resections of upper jaw, two tongue extirpations, one orbital tumor, one extraction of foreign body from orbit, one sarcoma of naso-pharynx, one plastic operation of masseter, three minor jaw operations. In addition, there were fourteen injections of novocaine or alcohol for neuralgia. In all there were thirty-nine injections of the ganglion. In twenty-nine cases the injection was easy. In seven cases the injection was successful after repeated trials. In four cases we failed to produce complete anaesthesia."

A careful inspection of the head which I have here will, I think, clearly account for the large number of unsatisfactory results.

The foramen ovale in its longest diameter is about 1 c. m., while the needle is but 1 m. m. in diameter, and could very readily enter the foramen without entering the body of the ganglion. In other words, the injection to give the best results should be made into the very center of the ganglion and not through its margins. In this specimen the introduction of the needle was faulty on both sides. I pushed the needle through the dura on the left side in order to demonstrate this very point, and you will observe that the needle entered the foramen at the inner margin and not in the center, therefore an injection would have been incomplete and no doubt would have had to have been repeated. And I feel that it is fair to assume that in those cases where a single injection did not suffice the needle did not enter the body of the ganglion, but entered one of the margins or divisions and the injection was therefore incomplete.

In closing I will summarize the results of my own efforts in as few words as possible.

In my experiments on numerous cadavers I was not always permitted to remove the skull cap and brain, but did so in a sufficient number of cases to verify my conclusions and to preserve several speciments, one of which is shown here. In all of the skulls opened I found the various foramena in the sphenoid anatomically normal, but am convinced that in at least one case, when I was not permitted to remove the skull cap and brain, the anomalous condition known as multiple foramen ovale existed; in this case I introduced two needles side by side and found two foramena, one above the other, but, as stated above, could not verify this.

All of my work, both on the living subject and on the cadaver, has been done in the Georgia Infirmary, a negro hospital in Savannah. Of my three living subjects the first two were not properly cases for either conduction anaesthesia or of tri-facial neuralgia, but you will readily understand my position. My paper had been practically completed for weeks with

nothing but experimental work on the skull and cadaver to my credit.

The first was a woman 26 years old complaining of pain in right side of head and face. Careful examination revealed nothing more serious than alveolar abscess on that side. I explained to her that I could open this abscess without pain if she would let me do a preliminary injection. She consented. The injection was done under light ether anaesthesia October 19, as follows. The needle entered the foramen while patient was in primary anaesthesia, ten minims of 2 per cent novocaine sol. were injected in the ganglion; she was allowed to regain consciousness with the needle in situ. She was then found to have complete analgesia of the entire area supplied by the fifth nerve. One cc. of 95 per cent alcohol was then injected in the ganglion without the patient complaining of the slightest sensation.

The alveolar abscess was opened the next day without pain or the use of any anaesthetic. The patient was kept under observation for five days in order to protect the eye. When she was discharged, October 25, she still had analgesia over the entire area and partial anaesthesia as well.

The second case, male, age 35, was admitted in the acute eruptive stage of secondary syphilis with violent irido-cyclitis in both eyes, the left eye showing a large bulging mass arising from the cillary body above and showing evidence of suppuration; patient complained of severe pain all over left side of head and face. He consented to the injection preliminary to opening the abscess. This was done November 4, as follows: Skin and subcutaneous tissues were injected with novocaine, after ten minutes the needle was introduced until the inferior maxillary nerve was reached (evidenced by expressions of pain) novocaine was injected at this point, and after ten minutes needle was introduced through foramen ovale (patient evidencing great pain), novocaine injected at this point, and as there was not complete analgesia after ten minutes the injection was repeated; after ten minutes more the conclusion was reached that there was something wrong with the novocaine solution. One cc. of alcohol was then slowly injected into the ganglion patient evidencing great pain during the injection. Ten miutes after injection of alcohol patient was free from all pain, cornea on injected side could be lightly touched without his knowledge, there was analgesia over the entire distribution of the nerve, but anaesthesia did not extend to the eye.

Twenty-four hours after injection the same condition obtained although he would flinch from slightest pressure over the cilliary abscess. Forty-eight hours after injection the patient was still free from all pain, there was both analgesia and partial anaesthesia of the area supplied by the two lower branches of the nerve, but the eye was still sensitive to pressure, the cilliary abscess however was freely opened at this time without anaesthetic and with little pain. This patient is still under observation. I believe that in this case the injection was not a perfect one.

My third case was one of genuine unilateral neuralgia, left side, male, 23 years old, had existed for one and one-half to two years. The operation was classical; a few minims of novocaine solution in the skin and subcutaneous tissues produced perfect local anaesthesia, the needle passed through the cheek and spheno-maxillary fossa without pain; when the inferior maxillary nerve was reached sharp pain was complained of, which was almost immediately relieved by a few minims of novocaine. The needle was then advanced 1 c. m., and when pain was complained of novocaine was again injected; when the needle was advanced another half c. m. and novocaine injected the patient at once remarked that he had a funny feeling in the eye, face and tongue; one c. c. alcohol was then injected without pain and patient was found to have complete anaesthesia of cornea, skin and mucous membrane supplied by fifth nerve. This patient is still under observation.

Addenda.

Since reading this report two other cases of trigeminal neuralgia have been successfully treated by this method.

DISCUSSION.

Dr. W. P. Reaves, Greensboro, N. C.: It seems to me that about all there is to be said has been said. I have only two points to make and they really do not bear on the injection.

As I understand it, this operation is not done until all sources of irritation in the region of the fifth nerve are excluded. The general surgeon has felt that he was the man to do facial surgery. Therefore, frontal sinuses have been opened, leaving the ethmoid, which kept up the infection. Since the specialists have been doing this intranasal work, the general surgeon has ceased to scar his patients for life, and, at the same time, often fail to get results. It seems about the only thing that the general surgeon now claims that he can do better than the specialist is to remove the Gasserian ganglion, which is a very dangerous operation, and this operation, which seems to be much safer and does not give the bad after-results, has put in the hands of specialists what rightly belongs to them, the surgery of the face or the region of the cranial nerves.

I have often said that no surgeon had a right to remove the Gassrian ganglion until he had thoroughly demonstrated that there was nothing

in the region of the fifth nerve which was causing the neuralgia. Heretofore these ganglia have been removed without knowing whether there was an irritation somewhere in the region of the fifth nerve causing the neuralgia.

I have had no experience in the injection of any of these ganglia except Meckel's ganglion. For the past year or so I have been injecting that ganglion through the posterior palatine canal. I find when you pass the needle back into the canal 1 1-4 inches you reach the ganglion. To me that is an easier way than through the nose.

I will not attempt to discuss the mechanism of injecting the Gasserian ganglion, because I know nothing about it.

Dr. J. W. Jervey, Greenville, S. C.: There are specialties within specialties, and wheels within wheels. Sometimes there are wheels in the head, and I feel that if I continue trying to keep up with all the innovations which are being introduced into our specialty that I will soon have wheels in my own head.

I felt that I should decline Dr. Martin's very kind invitation to discuss this paper, but being afraid that nobody else would, I decided to accept. As a matter of fact, there are very few of us who have given any close attention or made any particular study or experimentation in the development of this technique which Dr. Martin has explained to us. I think he deserves a great deal of credit for going into it. At the same time I feel sure that there will not be many of us who will feel that we can take it up with any reasonable hope that we can get enough experience in order to make us practically successful in the uses which it is designed for. I have had, as Dr. Reaves has had, a little experience with Meckel's ganglion—not very successful—and yet I think that we should bear in mind that before we attempt a procedure of this sort, which I consider to be more or less of a major operation, that we should, as Dr. Reaves has already stated, make sure that there is nothing in the distribution of the fifth nerve and its connections, or any possibility of reflex irritation, that can be removed without going into the base of the brain. Now, I particularly want to call attention in that line to the plainly evident and well-known occurrence of reflexes extending all over the area of the fifth nerve from intra-nasal conditions. Several instances have been brought very forcibly to my mind in the last three or four years. Four cases, especially severe, diagnosed by men who are supposed to know, and I did not attempt to controvert the diagnosis, as trigeminal neuralgia, and in one of those cases, particularly, one of the most eminent surgeons of the United States had refused to operate, said that he could do nothing, declined operation and sent the patient back home to suffer. In pure desperation her family physician brought her to me to see if there was anything in the nose that could account for this condition. There was a hypertrophy of the middle turbinate pressing against the septum. I did not offer any great hope for cure by removing that turbinate, but advised that it be done. It was removed, and from that day to this she has not had a recurrence of her trigeminal neuralgia.

I had one other exactly similar case, and another one where the pressure was caused by the inferior turbinate, and a fourth one caused by an extremely large exostosis of the septum, which pressed against the wall of the nose. Every single one of those cases, when that pressure was removed, recovered from the diagnosed condition of trifacial neuralgia. They were real sufferers.

I only want to call the attention of the Section to that fact, so that perhaps some of us will be able to avert the necessity, in some of our cases, at least, of doing this extremely delicate and what I should suppose dangerous technique.

I want to congratulate Dr. Martin again on his investigation and study and time that he has expended in perfecting himself in doing this, and I hope he is going to get results. Certainly if I do not get results with the methods that I am familiar with, I am promptly going to send that patient down to see Dr. Martin.

Dr. J. B. Greene, Asheville, N. C.: It seems to me if we can find a simpler method of getting results—Dr. Jervey having referred to removing the middle turbinate—we should use it. Some time ago I had a case of a young lady who had pain confined to the right supra-orbital region. The middle turbinate on that side had been removed and there was no sign of trouble of being due to a pathological condition of her nose or sinuses. I injected the supraorbital nerve with four drops of alcohol. She had some pain for a few seconds. That was six weeks ago and she has had no pain since. That is a very simple procedure and is applicable in a certain number of cases.

Dr. J. A. Stucky, Lexington, Ky.: I would like to report seven cases of undoubted involvement of the trifacial nerve, and after all possible intranasal causes had been removed, the patients were most desperate; two of them appealed to the general surgeon and had the ganglion removed. Both patients are relieved, but they have an ugly scar. Five other cases have been injected with alcohol. Three of them were injected by my assistant and two of them by Dr. Patrick, of Chicago, and the results of the treatment with the alcohol have been eminently satisfactory. I agree with Dr. Jervey. I do not feel like attempting the operation myself; I certainly would not do so unless I previously had the opportunity of doing the operation on a number of cadavers, but in the hands of men like Dr. Martin and men who have practiced and perfected the technique, I think it is far preferable to the more radical external operation of removing the ganglion.

Dr. Martin (closing): I quite agree with everything that Dr. Jervey and Dr. Stucky and Dr. Reaves have said. You must first exhaust every measure to relieve the cause of this condition. The injection of the ganglion is only a substitute for that very formidable procedure of extirpation. I had the very doubtful pleasure of assisting a surgeon in extirpating the ganglion, and I never want to see another one. It is one of the most frightful surgical operations I have ever seen.

This procedure, as Dr. Jervey and Dr. Stucky tell you, can only be accomplished by persistent practice on the cadaver. Dr. Newton has promised me one case and probably more on Friday during the clinics here, and if they materialize I will take great pleasure in demonstrating this operation, and he says if he cannot get me a live case, he will get a cadaver.

AUTHORS' ABSTRACTS.

Eye, Ear, Nose and Throat.

Gunshot Wound of Cavernous Plexus: Report of a Case With Results. By E. H. Cary, Dallas, Texas. Tex State Journal of Medicine, October, 1914, pp. 239-241.

Bullet went through the upper and outer part of the sphenoidal sinus, cut or bruised the sixth nerve as it curves to pass through the sphenoidal fissure, missed the opthalmic vein and artery, cut the sympathetic fibers which go to the Gasserian ganglion just above the cavernous sinus on its way to its present position.

Among the interesting points noted is the distinct influence the sympathetic nerve has over the Gasserian ganglion and its branches, causing first the loss of exquisite sensation of the sensory branch, being followed by the changes which give complete loss of sensation, to be repaired within a given length of time through the apparent influence of these sympathetic branches when able to get control once more. The sympathetic being truly a relay station for the purpose of intensifying sensation, its loss lowers the impulses even to the point of lowering vitality of the nerve so intensified, while all can be regained apparently early, after the sympathetic is repaired. The sixth nerve regained its capacity to partially innervate the external rectus muscle in about the same length of time it was required for the sympathetic to be repaired. The theory is deduced from the observation that the trophic ulcers first healed to be followed by improvement in the sensory nerves—just as the loss of sympathetic was noted before loss of sensation.

Not only the time for nerve repair noted, but two interesting explanations of inequality of pupils are offered.

Report of Case of Latent Mastoiditis with Sinus Thrombosis. By Wm. H. Huntington, Washington, D. C. The Virginia Medical Semi-Monthly, February 12, 1915, pp. 533, 534.

A simple mastoidectomy was done on a young male, adult, January 26, 1914, who had had an intermittent suppurative otitis of the left ear for six years without treatment. Immediate operation was imperative. At operation extensive necrosis was found with exposure of dura of middle fossae and lateral sinus.

Following operation patient had intermittent chills and sweats and some pain. Other septic conditions were excluded by a general examination. Spleen was palpable and enlarged, as was the liver. History of "chills and fever" two years prior. Symptoms of sepsis were not as marked as usually seen in sinus thrombosis, although that diagnosis was tentatively made.

It was deemed advisable to temporize as there was a possibility of there being a malarial infection. On the eighth day prostration was marked and the leucocyte count was 19,600.

At operation a peripheral clot was found and dislodged. It did not extend far in either direction and it was deemed best not to extirpate the jugular vein.

Patient made an uneventful recovery and was discharged February 24, 1914.

In the absence of clinical observation and with a history of "chills and fever" and a picture not typical of sinus thrombosis even with exposure of the sinus wall, one would hesitate about subjecting patient to second operation even when morally certain of the diagnosis.

The possibility of a chronic malarial infection coexisting must not be lost sight of.

When any doubt exists it is far better to have the pathologist or clinician confirm or question one's diagnosis before a second operation is done than to be chagrined and embarrassed by some one discovering the plasmodium of malaria in the blood, an acute gonorrhea, prostatic abscess, or one of many conditions that might confuse one's picture and lead to an erroneous diagnosis.

The Tonsil in Its Relation to Tuberculosis, Rheumatism, and Endocarditis. By B. F. Stevens, El Paso, Texas. Bulletin of the El Paso County Medical Society, February, 1915, pp. 16-21.

The author discusses the relation of the tonsil to tuberculosis, rheumatism, and endocarditis. The literature of the last five years is reviewed. He quotes statistics showing the small submerged tonsil is fully as dangerous as its enlarged fellow; in fact, is more often the seat of tubercular infection. He says, "so-called acute rheumatism is preceded in eighty per cent of all cases by an acute tonsillitis."

The tonsil should be suspected, no matter what the disease, where every other source of infection can be ruled out. The teeth are an important source of infection, and should be carefully examined for a possible pyorrhoea.

He reports a case of acute rheumatic fever, with a complicating endocarditis, following a tonsillitis which yielded to treatment by the use of vaccines.

His conclusions, while they may not meet the approval of many, will at least furnish food for thought:

1. Better a thousand needless tonsillectomies, than one death from an endocarditis, or a chronic invalid from rheumatism.

2. Suspect the tonsil—no matter what the disease—where every other source of infection can be ruled out.

3. The submerged tonsil is as guilty, if not more so, than its hypertrophied fellow.

4. There are no hard and fast rules whereby the tonsil may be judged.

5. In operating, if the tonsil is properly lifted out of its bed, it makes little difference what you amputate it with—my preference is for the snare.

6. Ether should be given by the continuous method, so one can continue operating, not having to stop every few minutes for the anaesthetist to half drown the patient, so that then operation may proceed.

The Sluder Tonsil Operation. By H. H. Martin, Savannah, Ga. Journal of the Medical Association of Georgia, January, 1915, pp. 262-266.

The desiderata of a perfect tonsil operation are: A thorough removal of all tonsilar tissue, including the capsule and plica, a minimum of traumatism and loss of blood with consequent

shock; a minimum of time consumed in performing the operation, and the simplest possible instrumentarium consistent with a thorough accomplishment of these purposes.

The removal of the tonsil in its capsule complete in from five to eight seconds with the loss of a spoonful or two of blood and a traumatism so insignificant that children will take solid food in two days after the operation and can return to their usual affairs and amusements after three days, and all with a single instrument, certainly approximates a perfect method.

Sometimes surgeons, when another surgeon has devised a method of operation and an instrument to facilitate that method, immediately offer some modifications of either the instrument of the method; sometimes both. Occasionally such modifications are practical and useful, but more often they are of no practical value and serve only to confuse the student and complicate our armamentarium.

Sometimes surgeons will attempt a new or original method of operating, and to use a new and unfamiliar type of instrument without giving the method or the instrument a sufficient study to intelligently comprehend either.

The original model of the Sluder Guillotine with a moderately dull blade is superior to any of the modifications. A sharp blade defeats the purpose of the instrument, which is to enucleate the tonsil, not to cut it.

Trachoma. By M. Victor Safford, U. S. Public Health Service. American Journal of Tropical Diseases and Preventative Medicine, July, 1914, p. 56.

Trachoma is found in widely separated regions of this country, among the Indians and oldest native white population as well as among more recent immigrants. The disease is characterized by a proliferation of the sub-conjunctival lymphoid tissue, the grouping of little masses of lymph cells into definitely organized follicles, and the destruction of the overlying conjunctiva bit by bit through the breaking down of the follicles and their replacement by scar tissue. The disease is due to some specific but as yet unknown infective agent. As proliferation of the sub-conjunctival lymphoid tissue occurs from many different causes the clinical diagnosis of trachoma is practically dependent on the appearance of signs of the characteristic destruction of the conjunctiva. At begining trachoma is indistinguishable from a conjunctivitis from any other cause. It ordinarily comes on insiduously. The marked inflammatory symptoms which usually serve first to call attention to its existence are probably due to an intercurrent or mixed infection. Damage to eyesight is to be attributed to such mixed infections alone or combined with the slower consequences of the mechanical irritation of a contracted roughened eyelid. Trachoma varies greatly in the degree of follicular formation. Atypical cases are common. The disease may arrest itself spontaneously before complete destruction of the palpebral conjunctiva. In any case the characteristic pathological changes in the sub-conjunctival tissue tend gradually to cease, although their pernicious consequences continue. The success of any form of treatment depends upon whether this process has already begun to cease of itself.

Non-Suppurative Otitis Media. By J. H. Barnes, Enid, Okla. The Southwest Journal of Medicine and Surgery, February, 1915, pp. 52-56.

This form of deafness is the most frequent of all cases we have to treat.

The pathology is practically the same as that of the suppurative form. It comes on very gradually and painlessly, causing the patient no undue alarm till the tinnitus begins or it is difficult to hear an ordinary conversation.

The cause is disease in the naso-pharynx which is caused by adenoids in childhood. Adenoids, or the remains of adenoids, such as small pads with bands and fistulas diseasesd tissues, are as frequent in adults with ear diseases as they are in children with otitis.

The symptoms are frequent earache in childhood, ears stopping up and deaf at times, inattention of the child, suppurating ears, especially after measles, scarlet fever and diphtheria. A gradual loss of hearing and finally noises in the head.

Treatment is radical removal of adenoids and the remains of adenoids as soon as the patient is seen. If adenoids were thoroughly removed in childhood we would have but few cases of this form of deafness.

The Southern Medical Journal

JOURNAL OF THE
SOUTHERN MEDICAL ASSOCIATION

Incorporating Gulf States Journal of Medicine and Surgery and Mobile Medical and Surgical Journal.

Published monthly at Nashville and Mobile. Price, $3.00 per year; 25 cents per single number.
Address Southern Medical Journal, Suite 905 Van Antwerp Bldg., Mobile, Ala., U. S. A.
Entered as Second Class Matter July 8, 1908, at the Postoffice, Nashville, Tenn.

EDITOR-IN-CHIEF.
SEALE HARRIS, M.D. ..... *Mobile, Ala.*

MANAGING EDITOR.
H. A. MOODY, M.D. ..... *Mobile, Ala.*

ASSOCIATE EDITORS.
J. A. WITHERSPOON, M.D. ..... *Nashville, Tenn.*
W. D. HAGGARD, M.D. ..... *Nashville, Tenn.*
W. A. BRYAN, M.D. ..... *Nashville, Tenn.*
W. M. LITTERER, M.D. ..... *Nashville, Tenn.*
M. M. CULLOM, M.D. ..... *Nashville, Tenn.*
OSCAR DOWLING, M.D. ..... *Shreveport, La.*

BUSINESS DEPARTMENT.
MR. C. P. LORANZ, *Business Manager* ..... *Mobile, Ala.*

OFFICERS OF THE SOUTHERN MEDICAL ASSOCIATION.

PRESIDENT.
DR. OSCAR DOWLING ..... *Shreveport, La.*

FIRST VICE-PRESIDENT.
DR. R. C. DORR ..... *Batesville, Ark.*

SECOND VICE-PRESIDENT.
DR. MCGUIRE NEWTON ..... *Richmond, Va.*

SECRETARY-TREASURER.
DR. SEALE HARRIS ..... *Mobile, Ala.*

COUNCILORS.
DR. H. H. MARTIN, *Chairman* ..... *Savannah, Ga.*
DR. W. S. LEATHERS ..... *University, Miss.*
DR. LOUIS ABRAMSON ..... *Shreveport, La.*
DR. W. S. THAYER ..... *Baltimore, Md.*
DR. JOSEPH GRAHAM ..... *Durham, N. C.*
DR. R. H. MCGINNIS ..... *Jacksonville, Fla.*
DR. ROBERT WILSON, JR. ..... *Charleston, S. C.*
DR. J. SHELTON HORSLEY ..... *Richmond, Va.*
DR. L. S. MCMURTRY ..... *Louisville, Ky.*
DR. EDWARD H. CARY ..... *Dallas, Tex.*
DR. J. N. BAKER ..... *Montgomery, Ala.*
DR. J. A. CRITTER ..... *Memphis, Tenn.*
DR. C. P. MERIWETHER ..... *Little Rock, Ark.*
DR. A. R. SHORT ..... *Washington, D. C.*
DR. G. C. ROSIER ..... *Elkins, W. Va.*
DR. MILLINGTON SMITH ..... *Oklahoma, Okla.*

SECTION ON MEDICINE.
DR. WILLIAM H. DEADERICK, *Chairman, Hot Springs, Ark.*
DR. CHARLES L. MINOR, *Chairman* ..... *Asheville, N. C.*
DR. STEWART R. ROBERTS, *Secretary* ..... *Atlanta, Ga.*

SECTION ON SURGERY.
DR. [illegible] ..... *New Orleans, La.*
DR. JOHN H. [illegible] ..... *Reading, Green Ky.*
DR. F. WEBB GRIFFITH, *Secretary* ..... *Asheville, N. C.*

SECTION ON PUBLIC HEALTH.
DR. S. W. [illegible] ..... *Richmond, Va.*
DR. [illegible] ..... *Columbia, S. C.*
DR. W. [illegible] ..... *University, Miss.*

SECTION ON OPHTHALMOLOGY, RHINOLOGY, OTOLOGY AND LARYNGOLOGY.
DR. [illegible] ..... *Asheville, N. C.*
DR. [illegible] ..... *Dallas, Texas.*
DR. [illegible] ..... *Huntington, West Va.*

SOUTHERN STATES ASSOCIATION OF RAILWAY SURGEONS.
DR. [illegible] ..... *Atlanta, Ga.*
DR. [illegible] ..... *Norfolk, Va.*
DR. CLARENCE H. VAUGHT, *Secretary* ..... *Richmond, Ky.*

Next Meeting, Dallas, Texas, Nov. 8, 9, 10, 11, 1915

EDITORIAL DEPARTMENT

MILITARY HONORS FOR SURGEON-GENERAL GORGAS.

From the viewpoint of beneficent results to mankind, the conquests over the silent hosts of death in the Canal Zone by Gorgas and his small army of sanitarians is without parallel in the history of the world. Gorgas does not, like Napoleon, Alexander or the leaders of the great armies in bleeding Europe, "sit and muse like other conquerors upon the fearful ruin he has wrought." With the consciousness of doing only good, he remembers the transformation of a tropical jungle, a veritable death hole, which claimed its victims by the tens of thousands among the French in their work for the glory of their country, into one of the most healthful spots on the globe, an actual health resort.

President Taft said: "The sanitation of the Canal Zone was responsible for the completion of the Panama Canal, the greatest industrial undertaking in the history of the world." The triumphs of sanitation on the Isthmus are even more far-reaching than its immediate object because it has proved to the world that the Caucasian can live and enjoy as good health, and be as efficient, in the tropics as in cold climates.

That the soil is more productive the nearer the tropics are approached is admitted by every one, and the lack of development of the agricultural resources of tropical and sub-tropical countries has been largely because of the fear of tropical diseases. Yellow fever has been conquered, and malaria is becoming a rare disease and the educated and progressive farmer will soon learn that his labors will yield greatest returns and that he and his family can enjoy greatest prosperity in the tropical and sub-tropical localities, which are destined to become the great agricultural regions of the world. War of man against man has changed the boundaries of nations, and Gorgas' vic-

tories over disease will in the future move the agricultural and industrial centers towards the tropics. Has any soldier or warrior ever accomplished greater achievements?

It is fitting that Gorgas should be rewarded with military honors, and Congress has broken all precedents in giving a medical officer the rank of Major-General, and in making him Surgeon-General of the United States Army for life. At the same time Congress conferred the rank of Major-General upon Goethals, another of the heroes of the Panama Canal. It is fine to see the leaders in the victories of peace receive the honors which they so richly deserve, and let us hope that our heroes of the future will be those who lead in the fight for the betterment of man rather than those who destroy in their efforts to win glory for self and country.

SIR WILLIAM OSLER ON THE WAR AND TYPHOID FEVER.

At a meeting of the Society of Tropical Medicine and Hygiene, in London, November 20, 1914, Sir William Osler, Baronet, M.D., F.R.S., Regius Professor of Medicine in the University of Oxford, read an important paper upon the above subject. In these days and in that region all speech inevitably reverts to the same topic, the War, and in his opening paragraphs Dr. Osler boldly announced that "in this game Hygeia holds the trump card and gives the victory to the nation that can keep a succession of healthy, efficient men in the field."

He dwelt upon the importance of four factors, viz: 1. *The individual case as a factor in infection.* 2. *Recognition of the protean character of the disease.* 3. *Typhoid carriers.* 4. *Immunization.* It is the latter feature that chiefly interests the average reader. We all want to know the whole truth about it, good or bad. We have had abounding statistics telling of its wonderful success. It is the other side we wish to learn about, freely and fully. Well, Dr. Osler gives the clinical histories of certain cases presenting some of the undesirable possibilities of the standard administration of immunization. These data of untoward effects he has collected from many sources, to whom he tenders his thanks for their compliance with his published request for information. First, Dr. Osler emphatically declares that "with ordinary care and precaution large bodies of troops may be successfully inoculated with extraordinarily little discomfort or disability." The Canadian contingent, some 31,000 strong, was inoculated near Quebec. Of the entire number only one had a local abscess at the point of injection, and there were no serious sequelae. In so-called "normal" cases the temperature rises in ten or twelve hours. Vomiting may occur. The temperature reaches 101 or 102. In severe cases, 103 to 104 degrees F., "or even higher." One case had a temperature of 106.4 F. four days after inoculation. Giddiness and fainting have been seen. In one instance one man out of 1,600 inoculated had temporary symptoms of confusional insanity, which soon disappeared.

Heavy exertion and exposure within twenty-four hours after inoculation "may be followed by sharp general symptoms." Sometimes diarrhoea follows within a few hours. More often constipation is present. There are two cases on record of appendicitis following inoculation in twenty-four hours; the other the third day.

Another patient developed a case of typical typohid fever seven days after the second injection. One clinical record tells of a case with symptoms of rheumatism of the joints, then of pneumonia, then of pleural effusion and a pericardial murmur. The Widal reaction was positive all the time a whole month. Finally he recovered. A case inoculated October 6 had a chill on the 7th and on the 8th developed double pneumonia and entered the general eastern hospital with a temperature of 103, pulse 120, and much delirium, violent. He died October 14.

Of course, those unaware of the pneumonic infection ascribed his death to the inoculation

Dr. Osler says emphatically: "Reports of death as a result of the inoculation are false." Exposure during the first day or two after inoculation may readily rouse the dormant germs of pneumonia, and should be avoided.

Another case of fatal pneumonia developed in the same body of men, two in sixteen hundred. Those cases reported as deaths resulting from inoculation proved to be, on investigation, as follows: Two were hospital nurses, one of whom already had typhoid and was given injections of the serum as treatment, a hazardous thing to do. The other nurse died of typhoid fever a month after her inoculation. The explanation is that she was already deeply infected before receiving the inoculation, and therefore it failed. The third case died of malignant endocarditis and the inoculation had nothing to do with it.

Scotland is peculiarly fortunate in its semi-immunity from typhoid fever. In 1913 the death rate from that disease in Glasgow was only 36 to the 1,000,000.

Dr. Osler concludes that the "Bacillus typhosus will kill in 1915 in the United States more people than will German shrapnel and bullets in the expeditionary force."

PELLAGRA AND MAIZE.

Thus far no theory of the etiology of pellagra has been universally accepted. The idea that a diet of maize and its products is the cause is apparently negatived by the fact that millions of human beings of different races have for generations consumed it freely, yet never heard of a case. The more recent doctrine that the insufficient nutrition dependent upon poverty or ignorance will result in pellagra cannot be accepted, since it is well known that although the disease is more common under such circumstances yet it is undoubtedly true that it does exist, not infrequently, among people who do not lack nourishment; and does not exist in whole regions where the people suffer from dearth of proper food. Everything points to pellagra as being primarily an infection or toxaemia of the gastro-intestinal tract, but as yet the exact source of the infection or toxaemia has not been proved.

Upon one point, however, the opinion of physicians who have much experience with the disease is so similar as to be almost unanimous, and that is that patients suffering with or convalescent from pellagra are made worse by eating maize or its products. True, a few observers have denied such is the case, but they are so few in comparison with those holding the opposite opinion that they may be considered exceptional. If it is true that corn is prejudicial in the way described it would seem that it either lacks some food element necessary to the protection of the system against the germ of pellagra, or else contains some substance that favors its propagation; or finally, carries something that so modifies metabolism as to result in the symptom complex we call pellagra. It is therefore interesting to compare, far as possible, the constituent chemical elements of the several grains used as foods by the peoples where the disease prevails, and learn, if we can, in what essentials they differ. The ordinary estimates found in tables of

[illegible] OF THE MINERAL ELEMENTS OF CERTAIN CEREALS AND THEIR PRODUCTS, EX-
[illegible] FOR FOOD. Extracted from Table 1, Bulletin No. 255, Ohio Agricultural Experiment Station.

		Potassium	Sodium	Calcium	Magnesium	Sulphur	Chlorine	Phosphorus	Inorganic Phosphorus	Organic Phosphorus	Total Base	Total Acid
[illegible]	[illegible]	.058	.127	.022	.019	.168	.081	.102	.017	.085	9.61	19.39
[illegible]	[illegible]	[illegible]	.113	.015	.122	122	.070	.264	.019	[illegible]	20.56	26.62
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.038	.604	.198	[illegible]	.135	.043	.092	31.46	48.10
[illegible]	[illegible]	.153	.000	.005	[illegible]	.182	[illegible]	.111	.019	.092	7.11	19.98
[illegible]	2.709	[illegible]	[illegible]	.112	.130	.214	.077	[illegible]	[illegible]	.375	35.95	43.49
[illegible]	.315	[illegible]	.032	[illegible]	.028	.114	.040	.104	.003	.101	5.12	14.89
[illegible]	[illegible]	[illegible]	.031	.085	.044	1.000	[illegible]	.220	.037	.183	9.78	78.12
Whole Corn.....	[illegible]	[illegible]	.030	.044	.126	.171	[illegible]	.303	.028	.275	22.43	32.31

dietetics are useless for this purpose. What we want is statistics of the chemical elements, stripped of all theoretical disguises. The following table is condensed from tables kindly supplied by the U. S. Department of Agriculture, Bureau of Chemistry, at Washington.

The chief clerk, Mr. F. B. Lindon, informs us that the tables from which we draw were taken from "Bulletin 255, Ohio Agricultural Experiment Station."

Referring to the condensed table we note that the chief difference between wheat bread and corn meal per 100 parts are: Sulphur, of which wheat bread contains .076 more than corn meal; of chlorine, .888 more than corn meal.

On the other hand the bread contains .036 less potassium and .470 more sodium. Corn meal also contain .118 more magnesium than wheat bread, and .153 more organic phosphorus. The sodium and the chlorine in the bread are evidently to a certain extent due to the salt used in its construction. In reality the principal differences between the wheat and the corn, are the potassium, magnesium and phosphorus contents. The total base of corn amounts to 10.95 per cent more than that of wheat flour. These conditions must powerfully affect the processes of metabolism, though indeed it is not the quantity of the elements so much as their proportion to each other that is important.

Taking everything into consideration, in the light of modern physiological chemistry, it would seem that the opinion that there is something in maize hostile to the welfare of pellagrins, may be founded upon something more than careless observations or misguided imagination.

PYORRHEA ALVEOLARIS AS A CAUSE OF CANCER.

At a recent meeting of the Mobile County Society, to which all the dentists in Mobile were invited, Dr. E. W. Cawthon read a paper on "Pyorrhea Alveolaris in Its Relation to Cancer." This paper was inspired by an original article in the July issue of The Dental Cosmos entitled "Pyorrhea Alveolaris as a Predisposing Cause of Cancer of the Alimentary Canal and Associated Parts," by F. St. J. Steadman, and read before the International Congress of Medicine, London, England. Dr. Cawthon first submitted the original article by Steadman in its entirety in which the author sought to prove by an array of compiled statistics the relationship existing between carcinoma of the alimentary tract and accessory organs and pyorrhea alveolaris. The etiological factor was the production of a long-standing chronic inflammation of the affected parts caused by constant swallowing of pus. In his remarks, Dr. Cawthon pointed out the frequency with which gastric and alimentary disturbances go hand in hand with diseases of the oral cavity, and told of the various organisms that inhabit the mouth and alimentary tract from a few hours after birth until death. He reported several cases of gastric cancer in which the patients had severe forms of Rigg's disease. In the discussion that followed the possibility of the development of carcinoma secondary to pyorrhea alveolaris was admitted. The consensus of opinion was that neither Dr. Steadman or Dr. Cawthon had presented any positive proof of the relationship of pyorrhea to gastric cancer, though some of the cases were suggestive of such relationship.

The dentists gave some interesting talks on the causes, conditions and treatment of pyorrhea alveolaris. The investigations of Allan J. Smith, Bass and others seem to prove that Rigg's disease is due to an amoeba, the entamoeba buccalis, which very closely resembles the amoeba coli. It has also been found that emetine hydrochloride, given hypodermatically in one-half to one grain doses daily for five days will destroy all the entamoeba on the surface of the affected gums, but most cases recur either because the entamoeba deep in the structure are not destroyed or reinfection occurs—probably the latter, since Rigg's disease is an

almost universal disease with people over forty years of age. To prevent reinfection Bass has suggested the use of a few drops of wine of ipecac on a soft tooth brush to be used once a day.

This mingling together of dentist and doctor was incidentally one of the happy results of the meeting, and the necessity for further harmonious relationship between the two professions was made manifest. It suggests that all medical societies should occasionally invite the dentists to their meeting to discuss subjects pertaining to oral hygiene.

WORK OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE A. M. A.

One of the notable addresses at the Richmond meeting of the Southern Medical Association was by Dr. George H. Simmons, the distinguished editor of the *Journal of the American Medical Association,* in which he discussed "The Work of the Council on Pharmacy and Chemistry: Its Effect on Medical Progress."

Few physicians realize and appreciate the great constructive work that has been performed by the Council on Pharmacy and Chemistry of the American Medical Association in its efforts to separate the good from the unworthy among the rapidly increasing number of proprietary medicines that were exploited to the medical profession up to the past decade. Ten years ago it looked as if the United States Pharmacopoea and National Formulary remedies would soon be forgotten and that physicians were almost hopelessly in the habit of prescribing patented names that were given them by various pharmaceutical houses. Indeed, it seemed to some that many physicians had ceased to think but were willing to accept [illegible] any statement may be [illegible] drug men or any claim made in advertisements in medical journals, and in the attractive adver[illegible] matter sent out through the mails, regarding the wonderful virtues of some "newly discovered remedy."

The physicians who desired to know what they were prescribing appealed to the American Medical Assoiation for light to be thrown on proprietary medicines, and the Council on Pharmacy and Chemistry was created for the purpose of examining chemically, and testing clinically, the various proprietaries prescribed by physicians. The result was startling, since many of the most widely used proprietaries were proved to be inert, or were merely drugs in general use with the names patented. The worthy proprietaries which were approved by the Council did not suffer, but a mighty howl was raised by the manufacturers of the preparations that were rejected.

The editors of the SOUTHERN MEDICAL JOURNAL have not the time, or the necessary equipment, for investigating the claims made for various proprietary medicines. They know, however, the character of the men composing the Council on Pharmacy and Chemistry of the American Medical Association, and they are willing to accept as final its conclusions. The JOURNAL, therefore, will not accept any advertisements of a proprietary medicine until it has been examined and approved by the Council. This effort to protect the readers of the JOURNAL from unworthy proprietary medicines costs many thousand dollars in advertisements each year, but the satisfaction of conducting a medical journal in the interest of, and for the elevation of the medical profession, more than compensates for the loss in income from advertisements that are still accepted by some reputable medical journals.

Dr. Simmons is always forceful in expression and his description of the work of the Council and of the good that has accrued to the medical profession and to the public makes interesting and instructive reading. If the American Medical Association had done nothing more than to create and support the Council on Pharmacy and Chemistry it should receive the gratitude of the medical profession.

LOUISIANA AND THE STATE BOARD OF HEALTH ON FRAUDULENT PATENT MEDICINES.

It is refreshing, in these days when suspicion of motives overshadows every effort to suppress graft and fraud, when so much of the public press is muzzled by policy and so many good and honest men in public office are deterred from an aggressive course by fear of consequences, to see a man and an organization fearlessly and unafraid performing their duty as they see it "regardless of consequences."

Once the writer, in talking with a survivor of the age of public gambling and dueling, when the man who was called "game" stood highest in the community, asked him what was the accepted meaning of that epithet. Instantly he replied: It meant *"regardless of consequences."* From the standpoint of courage, that compliment is due to Dr. Oscar Dowling and the Louisiana State Board of Health, of which he is President. They are facing a hostile organization of immense wealth led by a man whose position in a great church organization multiplies his influence a thousand fold. In attacking the pernicious proprietary medicine evil, especially in designating the Wine of Cardui fraud and its manufacturers, the Chattanooga Medicine Company, they have undertaken a battle royal beside which the fabled fight of Hercules and Antaeus was a mere wrestling match.

The Council on Pharmacy and Chemistry of the American Medical Association has shown that Wine of Cardui is composed chiefly of alcohol and inert vegetable substances and is incapable of the beneficial therapeutic effects claimed for it, and Dr. Dowling has so declared it and spread the accusation far and wide; whereupon the Chattanooga Medicine Company has sued him for $25,000 damages. A similar suit was previously brought against the American Medical Association and the *A. M. A. Journal* for $300,000, they having first begun the attack on fraudulent proprietaries and particularly specified Wine of Cardui. The Louisiana Board promptly came to the support of its President and also went a long step beyond mere denunciation. They amended the Sanitary Code of the State to the effect that after September, 1916, no proprietary or patent medicine intended for internal use by human beings can be made, kept, sold or given away in the State unless it has been registered before the State Board, giving an itemized statement of its ingredients, including every article and its amount. The information filed with the Board is strictly confidential and not open to public inspection, but only to officials lawfully authorized to inspect them. At first glance it would seem that under this cloak of secrecy the fraudulent commerce could still continue in impunity, but a subsequent paragraph guards against this, for it stipulates that no untrue written or published statement of supposed virtues and effects of the medicine shall be made so as to deceive or mislead. It is the publication or other communication of false claims for the medicine, its ingredients or effects that constitutes the misdemeanor and as the State Board always holds the guaranteed statement of those ingredients the promulgation of the ordinary patent medicine lies will be a risky business. The penalties range from fines of ten to five hundred dollars and imprisonment of from ten days to six months, at the discretion of the court. By this act Louisiana has placed herself upon the firing line and abreast of the most advanced States in the Union in this great war with the consicenceless exploiters of human suffering and human frailty, and though where so many are worthy of praise it is not easy to select any one as pre-eminent, yet in this instance no one will deny that to Dr. Oscar Dowling belongs the chief honor. In every duty devolving upon him as executive officer of the Board of Health of a great State he has shown himself preeminently effective. With a keen eye for discovering the prime necessities in every situation, with an exhaustless fund of energy, with

a rare gift of ready expression, a fine sense of humor and a relentless antipathy for all fakes, frauds and shirks, he is finely constituted to fill the exalted position of chief guardian of the public health of his State, and he has measured up to his duties and opportunities most brilliantly and effectively. Louisiana is to be congratulated upon possessing such a Board of Health, and the one and only Oscar Dowling.

THE DOCTOR AND THE MEDICAL SOCIETY.

At his inauguration as President of the Fulton County Medical Society, Atlanta, Georgia, Dr. Stewart R. Roberts read an address with the above title (*Journal of the Georgia State Medical Association*, February, 1915, Vol. IV, No. 10, page 285) that contains much of interest pertaining to the history of medical organization as well as many important facts regarding the advantages of medical societies to those who have the wisdom and good fortune to be members.

He goes a long way back for a starting point, even back to the occasion when Jupiter, suffering with the cephalalagia resulting from a megalocephalus that Apollo himself, though god of medicine, could not cure, orders his lusty "son, Vulcan, to split open his head with an axe." When this, "earth's first great operation," was performed, out leaped Minerva, goddess of Wisdom, full grown and panoplied in bright armor.

The doctor draws the deduction that: "The failure of medicine was the beginning of wisdom," but fails to notice that an equally fair inference would be that this interesting affair might account for the lack of wisdom so often displayed by the sons of men. The hand of Vulcan spilled it.

[illegible] the doctor lead [illegible] the medical centers of Cos and Athens with their Hypocrates, Aristotle and Vesalius to the days of Harvey and Sydenham, to the organization of the first known English-speaking medical society, "The Medical Society of London," in 1773, 118 years after the death of Harvey. A few years later, namely, in 1788, in Litchfield County, Connecticut, the physicians organized a medical society. The American Medical Association was not organized until 1847, while at Atlanta "what is now the Fulton County Medical Society was not organized until April 10, 1884."

Thus late was the seed planted, after thousands of years of waiting, that has reached the present magnificent proportions in every civilized country.

Dr. Roberts proceeds to consider the relations of the doctor to the medical society and to his environment from every possible point of view. He shows how the informal conferences over cases of interest rouse the activity of members and lead them to improve their ability. How friendships are formed, misunderstandings corrected, untiy of effort is secured and the influence of each member is increased. He calls attention to the growing usefulness of members, so that the older are the most valuable. He speaks of their retrospect of years, the vastness of their experience.

Most of us take it for granted that medical societies are of value to progressive physicians, but one cannot read Dr. Roberts' address without feeling grateful for living at a period when medical organizations are doing so much for the science and practice of medicine and surgery. This brings up the thought that in the South most of the State Medical Associations meet in April and May. Every physician owes it to himself, and to organized medicine that has accomplished so much for elevating the standard of the medical profession, to make an annual pilgrimage to mingle with his professional brethren on the occasion of the meeting of his State Medical Association.

THE SOUTHERN SOCIOLOGICAL CONGRESS.

The fourth meeting of the Southern Sociological Congress meets at Houston, Texas, May 8-11, 1915. The scope of the work undertaken by this representative body is not as widely recognized as it should be. Sociology is supposed to be the science that "treats of man as a social being." It therefore considers his relations to other men, socially, politically, ethically and physiologically.

Every man in his habits and actions becomes both an effect and a cause, an effect of his ancestry, environment, and general development; a cause of human character, future improvement or degeneration. He cannot live so that his life will not react on other lives for good or evil.

Sociology endeavors to discover the existing conditions, to encourage advance in the right direction and to deter the opposite.

For these purposes the Southern Sociological Congress is devoting its time, its energy and its money without hope of other reward than the elevation of the race in every possible manner. It is composed of eminent men and women whose names are known and respected all over the whole country. For the Houston meeting a program has been formulated that deals with matters of the most vital character to the Nation, the State, the community and the individual.

The deliberations of the Houston meeting will be conducted by the Committee of Public Health of which Dr. W. B. Rankin is Vice-Chairman, also Secretary of the Executive Staff. The subjects to be discussed are of interest to the general public as well as to the medical profession. The education and enlightment of the great, careless, irresistible public must precede the steps that lead to public health and welfare. Health is the first, the unavoidable necessity for general prosperity. This has been so often demonstrated, logically and physically, that it needs no further argument. How to secure that health and how to permanently preserve it, under the different conditions prevailing in the Southern States is the altruistic task assumed by the noble body of representative Southern men and women organized as the Southern Sociological Congress. Membership therein is a social honor. Participation in its work is the honorable discharge of a patriotic duty.

The influence it can exert is very great, touching every grade of social existence among the white citizens of the South, and that influence is rapidly extending. The JOURNAL predicts that when at last the "powers that be" shall recognize the need of a National Department of Public Health, whose Secretary has a seat in the Cabinet, it will be found that among all the agencies whose work has resulted in this mighty stride towards health and prosperity for the Nation, no small portion of the gratitude of the people, and of the honor of the great achievement, will be due to the Southern Sociological Congress.

FREE DISPENSARIES.

Free dispensaries are of incalculable benefit to the poorer classes of people inhabiting our towns and cities. They exemplify the old adage of charity beginning at home, and make possible the securing of the best available skill to these unfortunates in life, who are not able to care for themselves when overtaken by sickness or accident. It indicates the magnanimous spirit of a progressive city; and by the loyal attention on the part of our profession to the indigent poor, it raises the cloak of pure commercialism in which we have so long been shrouded, and shows to the laity and to the world at large that our work of ministering to the sick and distressed is one whose high calling cannot be questioned.

In this connection, particular attention is directed to the opening of a free city dispensary in Montgomery, Alabama, one of the first of its kind to be opened in a city in which there is not a medical college. Since the open-

ing in May, 1914, there have been held sixty-two clinics for children up to October 1. One hundred and forty-one children were seen, averaging a return of five visits each, making seven hundred and five visits to the clinic, with only one death recorded. Of the diseases treated, pellagra, pertussis, tonsilitis, ilio-colitis, uncinariasis and infant feeding, seem to constitute the major group. In the adult department there have been eighteen clinics with forty-five patients, averaging a return of four to each patient, making one hundred and eight visits. Dr. Gaston Griel is the physician in charge of Montgomery's free dispensary, and Dr. P. B. Moss, State Bacteriologist, does the necessary laboratory work. This newly organized institution is making splendid progress and is opening up the way for a larger field of endeavor. It is an example worthy of emulation in all cities and even in the larger towns.

AN INTERESTING BOOK ON THE NEGRO.

A remarkable book entitled: The American Negro as a Dependent, Defective and Delinquent, by Charles H. McCord, has been received at this office for the usual review, but its unusual character calls for a more extended notice.

The so-called "negro question" is so vitally important to the present and future welfare of the South, morally and physically, that this JOURNAL feels warranted in bestowing more than a passing notice upon an effort to present a thorough, unbiased analysis of the entire question, such as has evidently been the object of the author of this book. In a "preliminary" chapter the plan of the book is indicated and several interesting statistical features are presented.

Thus it shows that "at the time of the ratification of the Federal Constitution there were about three quarters of a million Negroes in the United States. At the close of the Civil War there were about four and a half million. There are now about ten millions," which is one-tenth of the entire population of the United States. Up to 1860 the Negroes increased in numbers faster than the whites; but since that time the reverse is true.

From 1900 to 1910 the white population of the South increased nearly 25 per cent, while the Negroes increased a little more than 10 per cent. The Negro population of cities has largely increased until it is estimated that 25 per cent of their whole number has thus forsaken the farm. As a result the "Negro Ghetto is growing up" in large cities, wherein they congregate on account of "caste distinctions or economic necessity." Negroes are easily classified as: 1. Educated and industrious; 2. Relatively ignorant, but sturdily industrious; 3. "The great mass of ignorant (not necessarily illiterate) Negroes of unstable character;" and 4. The lowest class, composed of vagrants and criminals and their associates of similar sympathies and tendencies. Socially the Negroes recognize but two classes, the upper class composed of classes 1 and 2, and a lower class containing classes 3 and 4. From these latter come most of the criminal Negroes, 75 per cent being potentially and 20 per cent actually criminal. Enforced prohibition lessens their numbers of lawbreakers by more than half.

Following the preliminary chapter, which, in a manner, summarizes the whole work, come chapters on: 1. Racial History of the American Negro, giving a graphic account of the customs and conditions under which, for centuries, the character of the race was formed. After reading this chapter one has a clearer conception of Negro character, and can understand some of its peculiarities that often puzzle the observer.

His "transplantation" is then considered, after which he is studied in his relations to citizenship, education, law, morality, business and domestic affairs. He is also considered as a pauper, a criminal and a defective; and finally "The White Man's Responsibility" is pre-

sented in intense, burning sentences that should bring a blush to the cheeks of many a white man or woman whose head is held high in society and who leads in all church activities.

Mr. McCord's book contains much of interest to Southern practitioners who, by force of circumstances, are close students of the Negro problem, and who are best informed regarding the physical deterioration of the American negro that is manifest to every unprejudiced observer.

Published by Social Service Book Co., 205-7 Brown-Randolph Building, Atlanta, Ga.

BOOK REVIEWS

Clinics of John B. Murphy.

By John B. Murphy, M.D., Chicago. Published bimonthly by W. B. Saunders Co., Philadelphia. $8.00 per year.

The December, 1914, issue contains the usual clinical talks on surgical diagnosis—this time on fracture—dislocation of the twelfth doreal vertebra—and a description of the operation Sarcoma of tibia, with excision and bone transplantation. Four cases at one time of multiple metastatic arthritides, following chronic alveolar abscesses with ankylosis. Operation and interposition of fascia and skin flaps in wrist joint with excision. Bilateral tuberculous epididymitis with excision of the affected parts only. Perforating good results. Cartilaginious exostosis of humerus-duodenal ulcer fixed to anterior abdominal wall. Excision of ulcer and gastro-duodenostomy. Retroperitoneal sarcoma of upper abdomen—exploratory laparotomy. Besides several pages on appendicitis, gall stones and vaccines.

SOUTHERN MEDICAL NEWS

ALABAMA.

Dr. G. R. Norman, of Brookwood, has been sentenced to the State penitentiary for six years for stealing examination papers from the State Board of Medical Examiners. Kelly Adams, his accomplice, a former janitor at the State Capitol, was sentenced to two and a half years. Proof was secured through decoy applicants for clandestine aid to secure licenses to practice medicine.

The State Health Officer, Dr. W. H. Sanders, has been informed officially that the recent outbreak of typhoid fever at Decatur was caused by using water from the Tennessee River. The experts recommended that the citizens boil the city water before using it, and that a filtering plant be established at Decatur.

The Louisville & Nashville Railroad takes on drinking water for its trains from New Orleans to Cincinnati from the Tennessee River at Decatur. Examination of the water has revealed the presence of typhoid bacilli. The railroad officials have been written to on the subject by the State Board of Health of Tennessee.

The Legislature has under consideration a bill to reduce the annual appropriation for the State Board of Health from $25,000 to $10,000 a year. Through the efforts of the State Health Officer the House committee decided to postpone action until their reassembling in July.

About the middle of February anthrax appeared in Birmingham. Five cases appeared in cattle and one in man. Drastic action was taken to suppress the disease and to protect citizens from infection.

At Birmingham about seventy-five practicing physicians have called upon the City Commissioners to have their license taxes refunded, on the ground that they perform much more charitable work for the city than their taxes amount to.

At Mobile, the City Health Officer, Dr. Charles A. Mohr, urges an extension of the sewerage in the interest of public health. He shows that malaria and typhoid prevail most extensively where there is no sewerage.

At New Decatur the city authorities declined to reopen the schools because the citizens refuse to allow the children to be vaccinated.

At Montgomery the citizens are heartily cooperating with the Sanitary and Health Departments in the war against smallpox. Every section is undergoing thorough inspection, yet but four cases were found during the first week in March and none since. School children are all carefully vaccinated.

Deaths.

In Hale County, January 31, Dr. Jacob Huggins, one of the oldest and most respected physicians in the State, an ex-president of the State Medical Association, died at his home at an advanced age.

At Birmingham, February 28, Dr. J. C. Abernathy, aged 79 years, died suddenly. He was found dead in his bed when he was called for breakfast. He had been in poor health for several days. He was a Confederate veteran and a member of several fraternal organizations.

ARKANSAS.

At Texarkana, February 25, Dr. E. L. Beck stepped out of the elevator in the State National Bank Building while it was several inches above

the floor. His foot turned and the fibula was fractured, resulting in confinement to his home for ten days.

The Argenta Medical Society was organized February 23 with thirteen charter members. Dr. R. C. Foster was elected President and Dr. W. M. Burns was elected Secretary.

The Sevier County Medical Society met at Horatio, February 10. The following officers were elected: President, Dr. E. Hopson; Vice-President, Dr. E. Wisdom; Secretary, Dr. J. J. Clingan.

DISTRICT OF COLUMBIA.

The Medical Reserve Corps Association, New York State Division, has created the "Gorgas Medal" to be given away annually in honor of Surgeon-General Gorgas. Officers of the Medical Corps and Medical Reserve Corps of the United States Army and Medical Corps of militia are eligible to compete for this medal, the papers submitted to be on some medico-military subject. Three officers, members of the faculty of the Army Medical School, have been named by Surgeon-General Gorgas to have complete control of the award, etc., these officers being Colonel Charles Richard, Lieutenant-Colonel Champe C. McCulloch, Jr., and Major Eugene R. Whitmore, to any one of whom requests for information should be addressed.

Deaths.

Dr. Robert Farnhan, aged 72 years, one of the oldest and best-known practicing physicians in Washington, died February 23 on the Washington and New York Express while en route from Chicago to Washington. He had visited Chicago to attend the annual convention of the Sigma Chi fraternity.

FLORIDA.

At Jacksonville Glenn G. Smith, City Registrar of Vital Statistics, makes a very favorable report. There were twelve cases of typhoid fever, with only two deaths. The total deaths from all causes numbered forty-six. There were three cases of diphtheria in the Buffalo Avenue School. A careful inspection of the pupils who were willing to undergo it revealed three children, who, though not ill themselves, were carrying diphtheria germs in their secretions. They were excluded from school and will not be readmitted until they cease to be a peril to the other pupils.

At the February meeting of the City Board of Health of Jacksonville, Dr. Graham E. Henson was elected city health physician to succeed Dr. M. B. [illegible].

The State Board of Health is writing to the clerks of all municipalities, to all women's clubs [illegible] of trade urging them to use their influence with the members of the Legislature to pass the model State law requiring vital statistics [illegible].

[illegible] there has been some alarm at reported [illegible] in the public school. Upon investigation [illegible] case of the disease was found in the school, but [illegible] case of what is known as diphtheria carrier were found among the pupils.

At Pensacola the Chamber of Commerce Public Health Commission has presented a measure to the City Commissioners which, if they approve it, will so regulate the sale of milk within the city limits that the citizens will be assured of getting fresh, wholesome and undiluted milk.

Deaths.

At Pensacola, on February 20, Dr. James S. Herron, a practicing physician for nearly fifty years in that city, died at his home, North Palafox Street, after an illness of several weeks. He was born in Chambersburg, Va., in November, 1833. He was educated at Spring Hill College, near Mobile, Ala., and graduated in medicine at the University of Pennsylvania in March, 1861, and entered the Confederate service the following November.

GEORGIA.

In Walton County Judge Brand has adjourned the Superior Court to a future date on account of the prevalence of smallpox. It was reported that over 200 cases existed at the time.

At Phoenix City about the middle of February la grippe was so prevalent that the physicians were overworked. One doctor saw thirty cases a day.

Dr. C. C. Buchanan, who has been fighting hookworm disease in Troup County, is now pursuing the work in Coweta County, making Newman his base.

At Clifton the Tift County Board of Health has been organized, with Dr. L. A. Baker as chairman and Superintendent of Schools; R. F. Kersey, Secretary, and T. E. Phillips, Chairman of the Board of County Commissioners, as the other members.

It is represented by the medical authorities of Macon that the cost of typohid fever every year to that city is not less than $60,000, counting loss of labor, time, attendance and a certain percentage of deaths, of which latter there were nine during the past year.

At Pelham, February 19, the Mitchell County Medical Society was reorganized.

At Atlanta a charter has been granted to the Co-operative Hospital Association, which has leased a building for its work. Its plan is to furnish hospital treatment to persons who are unable to go into the pay wards of other hospitals.

At Rome Mr. William H. Thomas has erected and equipped a hospital for negroes. It is intended to erect additional cottages, and a hospital for children.

On February 26, at Atlanta, the Georgia Surgeons' Club unanimously voted for Augusta as the next annual meeting place.

At Macon Chief Sanitary Inspector Jack Deitz declares that the city today is enjoying better health than in all its previous history. During February but one patient had a contagious disease, scarlet fever. In the same period of 1914 there were thirty-two cases of contagious diseases.

Deaths.

At Columbus, Dr. C. L. Williams.
At Smithville, January 8, Dr. W. T. Simpson.
At Savannah, February 11, Dr. A. B. Simmons.

(Continued on page xx.)

$4 A MONTH BUYS THIS VISIBLE

Oliver Typewriter

Nothing down. Free trial. Less than Agents' Prices. Shipped on approval. If you want to keep it, send us $4 a month. Send for famous FREE typewriter book. Tells how to save $48.00. Write today.

TYPEWRITERS DISTRIBUTING SYNDICATE
166-98B N. Michigan Blvd., Chicago (270)

Wassermann Laboratory
2159 Madison St., CHICAGO

Alcoholic Luetic Liver Extract and Amboceptors furnished. Wassermann Test, Autogenous Vaccines, Pathological Specimens examined. Intravenous Gravity Outfit.

GUINEA PIGS FOR SALE

Free Instructions how to do the Wassermann Test

GEORGE RUCKER

Constitution Bldg. Atlanta, Ga.

SCIENTIFIC MOTION PICTURES
MICROPHOTOGRAPHS
LANTERN SLIDES, X-RAY SLIDES.
CORRESPONDENCE SOLICITED

THE STORM BINDER AND ABDOMINAL SUPPORTER
(PATENTED)

Inguinal Hernia Modification

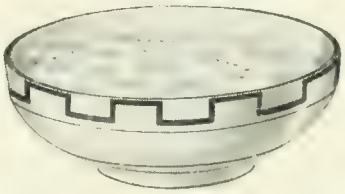
No Leather, No Whalebones, No Rubber Elastic
Washable as Underwear

Adapted to Use of Men, Women, Children and Babies

FOR HERNIA, RELAXED SACROILIAC ARTICULATIONS, FLOATING KIDNEY, LOW AND HIGH OPERATIONS, PTOSIS, PREGNANCY, PERTUSSIS, OBESITY, ETC.

Send for new folder and testimonials of physicians. General mail orders filled at Philadelphia only—within twenty four hours.

Katherine L. Storm, M. D., 1511 Diamond St. PHILADELPHIA



Puffed Wheat and Puffed Rice

The Fittest Foods Created

The Best-Cooked Cereals Known

Prof. A. P. Anderson, formerly of Columbia University, has best solved the problem of cereal digestion. And this is how he does it:

Whole kernels of wheat or rice are sealed in mammoth guns. Then the guns are revolved for an hour in 550 degrees of heat.

The trifle of moisture inside of each granule is converted to steam by this heat. When the guns are shot, that steam explodes. There occur in each kernel more than 100 million explosions.

Cooking, baking or toasting break up part of the granules. But this process alone breaks them all. In no other way is wheat or rice even half so well fitted for easy digestion.

The grains are thus puffed to eight times normal size. They become fragile grain bubbles, crisp and flaky, fascinating to the taste. They are served with cream and sugar. Or like crackers in bowls of milk. Or eaten dry like peanuts.

In many conditions which you meet you'll find these ideal foods. They are delicious whole-grain morsels which do not tax the stomach.

Package on Request

We shall gladly mail to physicians, on request, a package of either Puffed Wheat or Puffed Rice. The foods are sold by all grocers at 12c and 15c per package, respectively. Address

The Quaker Oats Company
Chicago (838)

(Continued from page 238.)

died, aged 51. He was a graduate of the Georgia School of Medicine and began practice in Savannah in 1889.

KENTUCKY.

At Louisville and the surrounding territory the foot and mouth disease is causing great trouble and expense. Not only is the meat supply threatened, but the dairy products are in danger of being tied up. There is danger of a government quarantine against all Kentucky live stock. Four hundred new cases of infected cattle included three dairy herds from Jefferson County late in February.

At Richmond, February 28, at a convention of the county farmers, they passed a resolution asking the State Livestock Sanitary Board to quarantine Madison County against stock from any place whatsoever and not permit any stock to be shipped out of the county except for immediate slaughter.

At Henderson the Henderson County Medical Society has elected Dr. W. V. Neel, President, to succeed Dr. Archibald Dixon, resigned.

At Whitesburg, Dr. John McMullen, government surgeon, has been treating trachoma, assisted by Miss Hicks, government nurse. A large number of cases have been treated. Their headquarters are now at Hindman.

The Jefferson County Dental Society has invited Dr. Harvey W. Wiley to Louisville for a two weeks' campaign in the interest of mouth hygiene.

At Carlisle numerous animals have died of rabies as the result of bites from a stray mad dog.

At Lebanon in February all of the public schools were closed until further orders following the discovery of smallpox in the city.

Deaths.

At Paducah, March 8, Dr. D. P. Juett, the dean of West Kentucky physicians and surgeons, died at his home in Blandville after a lingering illness of cancer of the stomach. He was a surgeon in the Seventh Kentucky Cavalry under Gen. Bedford Forrest.

At Cynthiana, February 15, Dr. John H. Van Deren died at his home from pneumonia, aged 44 years.

LOUISIANA.

Dr. Sidney Porter, who was elected state medical officer of the State Board of Health, at the December meeting, has resigned that office.

Two small pox cases were discovered in Charity Hospital late in February and were immediately isolated. As all the medical students of Tulane [illegible] hospital patients, it was decided that they must all be vaccinated.

Surgeon R. H. Creel, in his report to the United States Public Health Service, states that more than [illegible] per cent of the 14,151 buildings of New Orleans have been rendered rat-proof. Seventy per cent of the 2,953 stables have been demolished or completed.

Dr. Julian M. Gillespie and Dr. Charles L. Williams, surgeons in the United States Public Health Service, while in their automobile, suffered a collision with a street car. They were considerably bruised, especially Dr. Gillespie.

In February, Dr. J. Morley Hoag, 729 Columbia Avenue, was sued for $25,000 damages for the death of Arlington C. Metcalfe, who was struck and fatally injured by the doctor's automobile, October 18, at the corner of Ingleside Avenue and the Frederick Road. His widow and two children brought the suit.

A number of New Orleans' physicians are said to have been victimized by some sharpers claiming to represent a society with $10 entrance fee, each subscriber to receive regularly clippings from medical papers and scientific journals all over the world. They rented and furnished an office in a big building and put solicitors to work canvassing local physicians. They used the name of Dr. Matas as endorsing the project. Late one afternoon the office was found vacant and a small army of women left unpaid for their labor. No clippings had come and Dr. Matas knew nothing of the concern.

Dr. Durel, whose sanitarium is at Covington, and who is in charge of the tuberculosis ward of Charity Hospital, reports that out of seventy cases of the disease in the early stages, sixty-eight have been apparently cured.

Strict regulation of the United States quarantine laws will be maintained in all traffic between Havana and New Orleans because of the reappearance of bubonic plague in the Cuban city. No vessel will be admitted without submitting to the fumigation regulations at Havana.

At Lake Charles, on the 6th of March, Inspector L. C. Dees removed the last warning card signifying smallpox. The selection of Dr. G. C. McKinney as parish health officer has been formally ratified by the parish school board, which also agrees to pay $1,200 a year towards his salary and expense account.

Deaths.

On February 11, Dr. J. F. Simpson, of Athens, Claiborne parish, died at a New Orleans' hospital following an operation for appendicitis.

On the 20th of February, Dr. Oscar R. Lanng retired oculist, died at his home, 1322 Ursuline Avenue, aged 80 years.

On February 25, Dr. Lee Driesbach, of Collinston, died at a New Orleans hospital following a surgical operation.

MARYLAND.

At Gamber, Health Officer Dr. Charles R. Foutz, February 17, ordered the high school closed temporarily on account of an epidemic of diphtheria.

At Bethesda, Montgomery County, an outbreak of scarlet fever has closed the public school and caused considerable alarm among the neighbors. It is in a mild form.

At the February meeting of the Baltimore County Medical Society the Harrison act was the subject of consideration. Dr. Lewis H. Gundry presided.

Deaths.

At Frederick, February 27, Dr. Thomas E. R. Miller, of Lewiston, 71 years old, dropped dead in his office while prescribing for a patient.

At Washington, February 11, Dr. H. C. Shipley, formerly of Eldersburg, Carroll County, but for

(Continued on page xxii.)

Tire Ills can be Prevented to a Very Large Extent

Rim-cutting, for instance. Goodyear Fortified Tires have done more to combat that than any other tires in the world.

Blowouts due to wrinkled fabric. We prevent them by our exclusive "On-Air" cure, at an extra cost of $450,000 yearly.

Loose treads, too. A patent method used by us alone lessens this risk 60 per cent.

Punctures in large part are prevented by our All-Weather tread. It is double-thick and tough.

Skidding is combated, as in no other tire, by these countless sharp-edged grips.

These preventions—all of them—are found in Goodyear Fortified Tires, and no others. They have made these, by their savings, the largest-selling tires in existence.

For Doctors

To no class should such tires appeal more than to physicians. You who drive your own cars are most annoyed by troubles. And physicians, more than pleasure drivers, seek to minimize expense. That's why we tell you here, month after month, of these extra-grade Fortified Tires.

Men all around you will confirm what we say. No other tire that's built today is found on so many cars.

Our Research Work

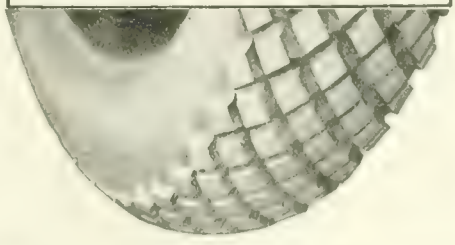
Another fact which you'll appreciate is this: We spend each year on research and experiment $100,000. We build in our laboratory 8 or 10 tires daily, seeking ways to better them. We test one tire against another to prove which way is best. Scores of our experts spend every day of every year in this ceaseless research work.

You medical men know the value of such work applied to your own profession. That's another reason why you should buy these tires.

Any dealer will supply you. And, despite these extra features, they cost no extra price. We save by mammoth output what these extras cost.

GOODYEAR
AKRON, OHIO

No-Rim-Cut Tires
With All-Weather Treads or Smooth



THE GOODYEAR TIRE & RUBBER COMPANY, AKRON, OHIO

(2178)

Patronize our advertisers—mention the Journal when you write to them

(Continued from page xx.)

the last thirteen years a resident of Washington, died and was carried to Carroll County for interment.

On February 8, Dr. John B. Skilling, of Lonaconing, died at his residence after a long illness, aged 88 years.

MISSISSIPPI.

At Jackson the State Board of Health was out of anti-rabic serum for some time during the first days of March and several people had to wait for a new supply from Washington.

Dr. Willis Walley, state sanitary inspector, who had been charged by a stenographer employed by the board with trying to induce her to conceal certain facts from Dr. E. H. Galloway, Secretary, upon thorough investigation at a special session was exonerated from the charges. It was a misunderstanding. Dr. Walley has issued a circular letter to the citizens of Vicksburg to co-operate with the health authorities to destroy the breeding places of flies and mosquitoes.

The new Baptist Hospital recently completed at a cost of more $50,000 in Jackson has been opened, and charity patients of any denomination are admitted free.

Dr. H. Chadwick, city food inspector, accompanied by Dr. Walley and several ladies of the Federation of Women's Clubs, inspected the meat markets in the city. They found most of them in a sanitary condition.

Dr. R. D. Dedwylder and Dr. C. C. Buchanan, who have been working in this State for the Rockefeller Sanitary Commission for the Eradication of Hookworm Disease, have been transferred to Georgia to continue the work there.

At Hattiesburg, March 13, Dr. W. W. Crawford closed a contract for ten additional rooms to the South Mississippi Infirmary.

Dr. F. L. Watkins, Deputy State Registrar of Vital Statistics, and special agent of the Bureau of the Census, has been sent to Georgia, South Carolina and Tennessee to assist in the organization of the vital statistics work in those states.

At Meridian much alarm is felt over the rabies situation. The infection is said to extend from Leflore County on the north to Pike County in the south, and from Copiah County in the west to Newton County in the east, and has now reached Lauderdale County, thus covering an area of more than 20,000 square miles.

Dr. M. J. L. Hoye, of Meridian, County Health Officer of Lauderdale County, was sued for damages for destroying tubercular cattle, but the Supreme Court of Mississippi has decided in his favor.

Dr. George Baskerville, of Winona, has been appointed Health Officer of Montgomery County.

Dr. Evan M. Gavin, of Quitman, has removed to Richton to become the surgeon for the Richton Lumber Company. Dr. R. M. Cochran, of Richton, was elected County Health Officer of Perry County to fill the unexpired term of Dr. Willis Walley, who resigned to accept the position of State Sanitary Inspector.

Deaths.

Dr. T. R. Trotter, County Health Officer of Montgomery County, died recently.

At Louisville, February 9, Dr. A. S. Kirk died at his residence, unexpectedly, aged 71 years.

Dr. William F. Spence, County Health Officer of Hancock County, died at his home in Caesar, January 10, from pneumonia, aged 73 years.

Dr. Thomas J. Spurlock, of McComb, died at the home of his son in Summit, January 22, aged 84 years.

At Cleveland, February 18, Dr. H. L. Sutherland, of Benoit, died very suddenly at the home of his daughter, Mrs. R. B. Johnson.

NORTH CAROLINA.

At Durham, Dr. C. S. Sterritt, city milk and meat inspector, resigned his position on the first day of March. He will take up private practice in the city.

At Raleigh there have been twenty-five cases of smallpox reported by the city health department. By the middle of February there were still nineteen cases and additional cases were expected. Energetic measures were adopted by the department to stamp out the disease.

At Winston-Salem, March 1, dispensaries were opened by the health department for vaccinating against typhoid fever. The Mayor is urging the heads of manufacturing departments generally to encourage this work among their employes and advises parents to protect their children in the same way.

At Charlotte during the last week in February the city health department reported that twenty-five miles of street were cleaned, that 1,500 premises had been inspected, of which 221 were found unsanitary; 477 surface closets were inspected and 85 were found defective.

At Roanoke Rapids 3,000 gallons of oil were spread by the United States Public Health Service on six and one-half miles of malaria-breeding streams at a cost of $300 during the summer of 1914. The results were so satisfactory that it is proposed to continue the practice indefinitely.

The State Board of Health has notified Dr. Charles T. Nesbitt, at Wilmington, County Health Officer, that the new deep well on the city property is not in a condition to be connected with the public main. The board recommends that if well water is demanded the wells should be situated outside of the city.

Dr. W. S. Rankin, of the State Board of Health, has asked the legislature for $50,000 for the use of the board. In addition, Dr. Shore wants $15,000 for a plant to manufacture antitoxin and an annual maintenance allowance of $7,000.

At the annual meeting of the Southern Surgical and Gynecological Association, held in Asheville, December 16-17, the following officers were elected: President, Dr. Bacon Saunders, of Fort Worth, Texas; First Vice-President, Dr. Thomas S. Cullen, of Baltimore; Second Vice-President, Dr. S. M. B. Clark, of New Orleans; Treasurer, Dr. Le Grand Guerry, of Columbia, S. C.; Secretary, Dr. W. D. Haggard, of Nashville. Next annual meeting will be in Cincinnati.

At Wilmington about the last of February there were nearly forty cases of whooping cough among the children. The health officer says that the epidemic cannot be curbed by quarantine on account of the state laws.

At Greensboro three cases of smallpox have been discovered, two of the patients being negroes, and one white.

(Continued on page xxiv.)

The American Negro

AS A

Dependent, Defective and Delinquent

By CHAS. H. McCORD, A.M.

This is the most comprehensive and authoritative discussion of the submerged Negro yet published. It is of good literary quality, frank and fair in treatment. It should be in the hands of every student of the perplexing "Negro Problem." **It is of special interest to physicians.**

Uniform with the proceedings of the Southern Sociological Congress. 342 pages, price $2.00 postpaid.

SOCIAL SERVICE BOOK CO.

205 7 Brown-Randolph Bldg. ATLANTA, GA.

MISS COMPTON'S SCHOOL

For Children of Retarded Mentality

Established 1901. Limited to 10 pupils. Individual instruction. Open entire year. Ten and twelve month terms. Address **FANNIE A. COMPTON, Principal, 3809 Flad Avenue, St. Louis, Mo.**

MINERAL WELLS, TEXAS

AN AMERICAN SPA

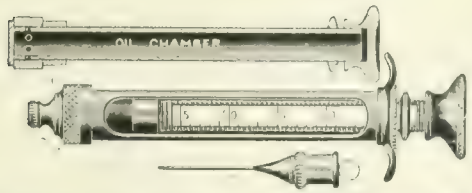
Invites investigation by the profession as a resort offering a variety of Eliminative Natural Mineral Waters and modern facilities for physical recreation and mental relaxation.

Analytic Content of the waters from the different Wells show from 98 to 365 grains of the combined Sulphates of Sodium and Magnesium, per U. S. gallon, together with the Carbonates and Bicarbonates of Sodium, Calcium, and Magnesium and the Chlorides of Potassium and Sodium in varying amounts.

Physiologic Action—ranging from the freely diuretic and mildly laxative to the strongly purgative. Population 6,000, elevation 1,200 feet, paved streets, modern sanitation. Good hotels and baths. Six elegant drinking pavilions with an aggregate floor space of 100,000 square feet.

THE COMMERCIAL CLUB

MINERAL WELLS, TEXAS



Our Hypodermic Syringes all have the new style HOLLOW Pistons which are filled with oil CLEAR TO THE OUTER ENDS, so that the Packing NEVER dries out, the Pistons NEVER work hard, the Syringes NEVER leak, and the oil being 5 per cent. carbolated, keeps the Syringes automatically aseptic, without boiling; if broken, these Syringes can be repaired on the spot by the Physician himself. Pistons of old-style Syringes replaced with our new HOLLOW Pistons and returned promptly.

THE W. S. CO., Canton, Ohio.

N. B.—Send for our Descriptive Catalogue and also for free sample of our Gold Medal SPECIAL NEEDLES.

Folks Like to Eat Bran

Served in This Way

You are seeking, perhaps, an ideal way to serve bran. Let us send you a package of Pettijohn's to prove that we have found it.

Pettijohn's is a breakfast dainty made of soft wheat, rolled. Its form and flavor make it welcome on countless morning tables. Perhaps half the folks who eat it don't suspect the bran.

Yet hidden in these luscious flakes is 25 per cent unground bran—the most effective form.

Thus we combine a delicacy, a whole-wheat food and a bran-food.

Pettijohn's is specified now on countless diet lists. We believe it will serve you in many a case when you know it. It is especially adapted to continued use, where you wish to establish the bran habit.

Pettijohn's

Rolled Wheat with the Bran

Package Free

We will mail to any physician a full-size package for testing at home or with patients. Please ask us for it.

Most better-class grocers sell Pettijohn's for 15 cents per package. It has national distribution, so any grocer can get it from his jobber. For free package address

The Quaker Oats Company

Chicago, Ill.

(Continued from page xxii.)

Deaths.

At Fairview, near Asheville, Dr. R. W. Cooper, an aged resident, died at his home, February 26. He was prominent as a physician and had served with great distinction as a surgeon in the Confederate army.

OKLAHOMA.

Dr. M. C. Wyatt, of Oklahoma City, has been confined in the German Hospital in Kansas City with acute blood poisoning in his right hand and arm. It is hoped the trouble will soon be overcome.

On January 12 members of the State Board of Medical Examiners gave examinations to fifteen applicants. Two of those taking the examinations were negroes.

At Muskogee, where smallpox was found among the prisoners in the Federal jail, all of the 150 prisoners were vaccinated.

At Goltry, Dr. W. G. Kiebler recently received a Colles fracture while cranking his automobile.

In this state under the present law the health commissioners are allowed to make semi-annual inspections of hotels, charging therefor 15 cents for a room. It is proposed to change the law and provide for a state license to be issued to hotels, etc., so that one fee will cover all inspections found necessary. The fee will range from $2 to $5 a year.

At Okeene a hospital building to cost $2,500 is planned. The sum of $2,100 has been subscribed toward its construction.

The following physicians have moved: Dr. J. T. Vicks from Antlers to Ringling; Dr. J. M. Wells from Newby to Bristow; Dr. E. W. King from Bristow to Oilton; Dr. B. H. Day from Alma to Oklahoma City.

Deaths.

At Purcell, January 21, Dr. J. S. Childs died at his home from senility and heart failure.

At Tonkawa, February 24, Dr. M. G. Witter, age 75, died from cancer of the stomach.

SOUTH CAROLINA.

At Charleston during the meeting of the Tri-State Medical Association in February, many of the doctors visited the new medical college and were much pleased with the handsome building and its up-to-date equipment.

Governor Manning has appointed the members of the executive committee of the State Board of Health. The members were recommended by the State Medical Association at the annual meeting last April at Florence. The members will serve for terms of seven years. James A. Hayne, M.D., has been reappointed as State Health Officer. Following are the members of the executive committee: Robert Wilson, Jr., M.D., Charleston; D. B. Frontis, M.D., Ridge Spring; C. C. Gambress, M.D., Abbeville; W. J. Burdell, M.D., Lugoff; E. A. Hines, M.D., Seneca; W. M. Lester, M.D., Columbia; William Egleston, M.D., Hartsville; W. W. Dodson, Ph.G., Greenville.

At the annual meeting of the executive committee of the State Board of Health of South Carolina, to be held at Greenwood April 29, there will be an election for the position of Medical Superintendent of the State Tuberculosis Hospital to be opened at State Park, near Columbia, S. C. Salary $1,500 per annum, fuel, lights and board. A married man preferred. Applicants must state age, previous experience, college and year of graduation and such other facts as they deem pertinent. A matron and a graduate trained nurse at $600 each per annum, fuel, lights and board, will also be elected at this meeting. Applications, for file, should be addressed to James A. Hayne, M.D., Secretary State Board of Health, Columbia, S. C.

TENNESSEE.

At Nashville, United States Marshal Jonas E. Amis has appointed Dr. Owsley Manier United States physician for that city, succeeding Dr. G. F. Cummins. He will attend United States prisoners in the Davidson County jail when necessary.

Dr. H. H. Shoulders, of the State Board of Health, has written the Louisville & Nashville Railroad about the use of the Tennessee River water for their passenger trains. The reason was the alarming epidemic of typhoid fever at Decatur, where the railroad takes on drinking water for its passenger trains.

Dr. Olin West, of the Hookworm Eradication Bureau, announces that his bureau has arranged to continue the work until July in spite of the exhaustion of the Rockefeller donation. New hookworm work has been begun in Bledsoe, Hardin and Henry counties.

The City View Sanitarium has opened a new fifty-room addition. It has two new buildings, one for men and one for women. Dr. John W. Stevens is in charge.

Dr. John Overton, of Nashville, and Miss Alice Shelton, of Erin, were married at Nashville, January 1, 1915.

Mayor Thompson, of Chattanooga, has received 213 complaints of residents of the newly annexed territory who have failed to connect with the proper sewers. Officers have been appointed to investigate complaints and compel proper action.

Time has demonstrated once more the efficiency of vaccination in preventing smallpox. Since the universal vaccination of all the citizens the infection has entirely disappeared excepting the fifteen cases now under control and convalescent. Some of these have been well for some time so far as smallpox is concerned, but are held under quarantine as a precautionary measure.

At Kingston, February 26, information was received that in the nearby Cardiff neighborhood there were fifty-seven cases of pellagra, several of which were of a very severe character.

At Dayton, in a called meeting of the Rhea County Medical Society, the following officers were elected: President, Dr. R. C. Miller; Vice-President, Dr. J. R. Gillespie; Secretary-Treasurer, Dr. O. W. Gross.

At Gallatin and vicinity 700 white people and 800 negroes have been vaccinated against the outbreak of smallpox. Consequently the disease has been stamped out, only two cases occurring in two weeks, and those of a light character.

Dr. Ira H. Jordan has moved from Dyersburg to Obion and will join the Obion County Medical Society.

The State Board of Health announces a three weeks' campaign against uncinariasis in McNairy

(Continued on page xxvi.)

CLASSIFIED ADVERTISEMENTS

Advertisements under this heading will cost 75c for fifty words or less, payable in advance. Additional words, 1½c each. All replies received in our care will be promptly forwarded. **Southern Medical Journal Mobile, Ala.**

WANTED, A DOCTOR—Dauphin Island, Ala., 30 miles south of Mobile, is being developed by Tidewater Securities Corporation, offices 1001 Van Antwerp Building, Mobile, Ala., as a summer and winter resort, coaling station and shipping center. Four hundred people now live on the island, and the population is expected to increase rapidly. A good physician is wanted who is able and will put up a drug store, practice medicine, build a home, and become a citizen. This is a good opening.

SYSTEM FOR THE DOCTOR means money and time saved, more efficiency in the treatment of the patient and less drudgery for the physician. THE HOLDEN SYSTEM is simplicity itself and a recognized economical, complete, uniform and reliable short cut method for ACCOUNTS and CASE-RECORDS. Eleven years of success proves our claims. Special reduced introductory offers made to readers of this magazine. Samples and full information sent on request. Address THE HOLDEN SYSTEM, Box 351-D, Yonkers, N. Y.

FOR SALE—$5,000.00 country practice established twenty years among good, substantial white people. Collections good and business from start. All for the price of office fixtures, drugs, instruments, teams, etc. Everything in first-class shape to begin the practice of medicine. Price, $2,000.00. Address R. B. Pryor, M.D., care Southern Medical Journal.

WANTED—Opportunity to become associated with older physician; am 31, single, strictly temperate, graduate A plus school (1912). Have had excellent hospital experience, medical, surgical and gynecological, in Philadelphia and Baltimore hospitals. Very best references given and required. Address 575-AWD, care Southern Medical Journal.

JUST PUBLISHED—LIMITED EDITION—Transactions of the second triennial meeting of the National Association for the Study of Pellagra, containing over fifty articles on the various aspects of pellagra. Price, $5.00, delivered. The R. L. BRYAN CO., Publishers, Columbia, S. C.

Best method of collecting. The "advance fee" agency exposed. FREE booklet to any physician or dentist writing for it on his own stationery. Address NATIONAL MERCANTILE AGENCY, Inc., Munsey Building, Washington, D. C.

WASSERMANN LABORATORY—2159 Madison St., Chicago. Alcoholic Luetic Liver Extract and Amboceptors furnished. Wassermann Test, Autogenous Vaccines, Pathological Specimens examined. Intravenous Gravity Outfit. GUINEA PIGS FOR SALE. Free instructions how to do the Wassermann Test.

Patented Oct. 14, 1913. Jan. 6, 1914.

Portable Fire Proof Garage

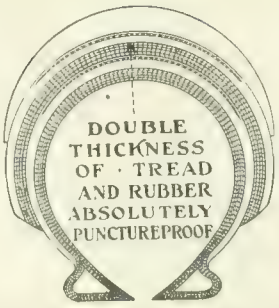
Direct from Factory. Guaranteed

FROM $90.00 UP ACCORDING TO SIZE

THE TAYLOR MANUFACTURING CO.

Montclair, N. J.

Write for catalogue



CROSS SECTION OF DOUBLE SERVICE TIRE

Double Service Automobile Tires

GUARANTEED 7,000 MILES SERVICE

ABSOLUTELY PUNCTUREPROOF

Double Service Tires are double the thickness of the best standard make tires.

This 100% greater wearing surface naturally gives that much more mileage and service. The average of 12 plies of tough fabric and one inch surface tread rubber makes these tires **absolutely puncture-proof.**

These tires excel all others for use in the country over rough and rugged roads as well as on hard pavements. They are as easy riding and resilient as any other pneumatic tire—the air space and pressure being the same.

They are the most economical and "care free" tires made and are used where tires must be depended on and tire troubles cannot be tolerated. Many **Double Service** style tires are in use in the United States government and European War service.

Our output is limited to a certain amount, but for a short time we offer the following reduced special prices as an **introductory Offer.**

	Tires	Extra heavy tubes
28x3″	$ 7.25	$2.20
30x3″	8.60	2.30
30x3½″	10.85	3.10
31x3½″	11.40	3.15
32x3½″	12.75	3.20
31x4″	14.25	4.00
32x4″	14.90	4.10
33x4″	15.75	4.20
34x4″	16.70	4.35
35x4″	16.80	4.60
36x4″	17.45	4.65
37x4″	17.65	4.70
35x4½″	21.20	5.60
36x4½″	22.50	5.75
37x4½″	23.60	6.20
35x5″	24.40	6.35
36x5″	25.10	6.55
37x5″	26.30	6.60

All other sizes not enlisted in above list also furnished. Non-skid at [illegible] additional.

Terms: Prices net with [illegible] special prices, [illegible] cent allowed on [illegible] for two months time. All per cent drafts must be [illegible].

Try these tires and be convinced. Order very high quality. Not sold through dealers.

DOUBLE SERVICE TIRE & RUBBER CO.
Dept. D 15 AKRON, OHIO

(Continued from page xxiv.)

County. All applicants will be examined and those infected treated without charge.

At Memphis the City and County Anti-Narcotic Hospital was opened March 8 at the Tri-State Fair Grounds, for treating men and women addicted to the drug habit. Twenty patients were admitted. The medical department is in charge of Dr. G. C. Pettey. Patients are admitted by J. P. Kranz, General Secretary of the Associated Charities. All records are kept strictly secret. It is estimated that from fifteen to thirty days will be required to cure average cases.

Deaths.

At Cross Plains, February 15, Dr. L. B. Walton died at his home from the infirmities of age. His age was 88 years.

At Flat Woods, January 21, Dr. Thomas S. Evans, a Confederate veteran, died at his home aged 72 years.

At Newmansville, December 30, Dr. John C. Marshall died at his home at the age of 50 years.

At Del Rio, January 21, Dr. John W. Ruble died at his home, aged 64 years.

TEXAS.

At Woodville, Dr. A. R. Sholars, of Orange, Councillor of the Southeastern District of the State Medical Association, organized the Tyler County Medical Society, February 22, with the following officers: Dr. J. H. Thomas, of Doucett, President; Dr. R. E. Dicken, of Woodville, Vice-President; Dr. L. R. Cade, of Chester, and C. S. Coker and B. L. Jordan, Committee on Public Health; Dr. J. F. Shivers, of Woodville, Secretary-Treasurer.

At Galveston, Dr. R. L. Wilson, of the United States Public Health Service, has been appointed surgeon in charge of the new Galveston quarantine station.

At Abilene the county commissioners court has appointed Dr. W. Auda Veek Cash, County Health Officer to succeed his father, Dr. C. M. Cash, who is now in South Texas. Dr. H. E. Wallace, of Ovallo, was appointed physician for the southern end of the county and Dr. W. V. Crawford, of Merkel, physician for the western end.

At Laredo the physicians in the immigration service compel the vaccination of every person coming into the United States from the Mexican side. On Washington's Birthday some thousands of people attended the bull fight in the Mexican town. On their return to the state all were vaccinated.

The following appointments have been made: Dr. Casper R. Byars, of Bay City, County Health Officer, Matagorda County. Dr. John E. McClung, Corsicana, specialist on diseases of the eye, ear, nose and throat at the State Orphans' Home. Dr. Thomas P. Bass has been reelected Superintendent of the state epileptic colony at Abilene.

At Dallas, City Health Officer Dr. A. W. Nash reports favorable health conditions during the month of January. There were but few deaths and one of these was over 100 years old. The list of infectious and contagious diseases was: Chickenpox 32, no deaths; scarlet fever 26, no deaths; smallpox 11, no deaths; diphtheria 12 1 death.

Houston medical authorities are notified that Dr. Charles A. R. Campbell, of San Antonio, will visit them in the interest of preserving the bats. Dr. Campbell is now building a "bat roost" in San Antonio at the cost of the municpality. He convinced the San Antonio board of the value of bats in destroying anopheles mosquitoes. In Houston school authorities were having the bats, which lived in the attics and unused rooms, destroyed.

County Health Officer W. H. Martin has placed under treatment a 15-year-old boy suffering with the first case of spinal meningitis seen this year. He warns the citizens to keep the feet dry and the body warm and to rinse the mouth, throat and nose in antiseptic solutions.

Dr. L. P. McElhannon, of Belton, and a member of the State Board of Medical Examiners, has moved from Waco to Belton.

At San Antonio, Miss Emma Pirrie, head of the domestic science and home economics department of the San Antonio public school system, has been appointed by the State Board of Health a member of the advisory committee on school inspection, child hygiene and research work.

The South Texas District Medical Association meets at Victoria, April 8 and 9, the Denver Hotel being headquarters. A most interesting program has been prepared.

Deaths.

At Denton, Dr. C. Lipscomb died at his home, February 18, aged 76 years. He was a Confederate veteran.

At Pittsburgh, March 1, Dr. R. J. Swain died after an illness of several weeks.

At Hempstead, Dr. J. J. Perry died at the home of his son, February 2, aged 87 years.

VIRGINIA.

Dr. Allen W. Freeman, for many years Assistant State Health Commissioner for Virginia, has been appointed epidermologist for the United States Public Health Service, with an office in Washington, at a salary of $4,000.

At Richmond four of the children of State Health Commissioner Ennion G. Williams had scarlet fever in February. The cases were mild.

The State Board of Health has issued the annual digest of the rules of good health entitled "The Virginia Health Almanac." It is a valuable contribution.

At West View, February 24, it was found that there were a number of smallpox cases in a negro settlement about two miles from the town.

At a meeting of the faculty of the Medical College of Virginia, January 14, it was decided to accept the Old Dominion Journal as their official organ and later to offer to make it the official organ of the Alumni Association of the Medical College of Virginia. Drs. Stuart McGuire, E. C. L. Miller and G. Paul LaRoque will be added to the editorial staff.

Governor Stuart has ordered a quarantine within a radius of five miles of Miller Brothers' farm, where some 300 dairy cattle were slaughtered on account of foot and mouth disease. Dr. E. C. Levy, City Health Officer of Richmond, has ordered that all milk sold in the city be pasteurized.

Deaths

At Richmond, January 15, Dr. John F. Winn,

(Concluded on page xxviii.)

Cargentos

Cargentos (Colloidal Silver Oxide Mulford) contains 50 per cent of silver. It is produced by the action of potassium or sodium hydroxide upon silver nitrate in the presence of proteids, preferably casein, which prevent the formation of silver oxide in insoluble form. A solution of colloidal silver oxide is obtained, which is dialyzed until it is completely free from organic salts. The pure solution is evaporated in vacuo at low temperature to dryness. It appears as lustrous black scales freely soluble in water. Solutions are not precipitated by sodium chloride or albumen, and this, together with their high specific gravity, due to the large silver content, increases their penetrating power.

No other salt of equal bactericidal properties can be applied in such concentrated solutions without causing irritation. Cargentos has the same bactericidal power as carbolic acid.

Cargentos is especially valuable in Roentgenography on account of non-toxicity and the absence of irritating properties. Dr. A. A. Uhle, Dr. George A. Pfahler, and others, use Cargentos "extensively in urethral and bladder affection, and find it non-irritating in 50 per cent strength." (See Annals of Surgery, April, 1910, page 546.) Cargentos is an excellent antiseptic in acute catarrhal conditions, non-irritating to the mucous membranes and distinctly inhibitory to bacterial development."

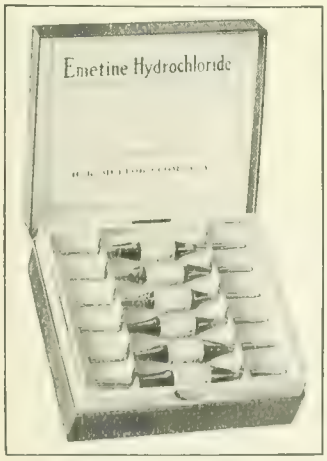
Supplied in 1-2 oz. and 1 oz. vials and in tablets for preparing solutions extemporaneously.

Cargentos Dusting Powder is an effective dry surgical dressing; its non-caking properties make it valuable in dressing amputations, leg ulcers, wounds, venereal abscesses, etc.

Emetine Hydrochloride Mulford

A True Specific in Amebic Dysentery, Amebic Hepatitis and Amebic Pyorrhea. Useful in Checking Hemoptysis

In Amebic Dysentery and Amebic Hepatitis (abscess of the liver) practically 100 per cent of cures are reported, thus making it a specific remedy.



Friedenwald and Rosenthal* state that:

1.—**Emetine is a specific in the treatment of amebic dysentery.**

2.—**It is quickly absorbed and its effect is rapid and striking.**

3.—**It produces no unfavorable symptoms, such as nausea, vomiting and depression.**

4.—**It is a diagnostic agent of the greatest value,** because other forms of dysentery are not favorably influenced by Emetine.

Emetine has been proven a specific in amebic pyorrhea by Barrett, Bass, Johns and others.†

Emetine Treatment of Hemoptysis. One of the properties of Emetine is to constrict the small blood vessels. In the treatment of hemoptysis Flandin states that "the result of the injection was surprising, the hemorrhage from the lung stopping immediately. No disagreeable sensation was experienced, no palpitations, dizziness or nausea."

Emetine Hydrochloride Mulford is furnished in packages of **12 ampuls,** each ampul containing 30 milligrams 1-2 grain dissolved in 1 c.c. sterile physiological saline solution.

In tubes of 10 one-fourth grain hypodermic tablets. In tubes of 20 one-half grain compressed tablets for oral administration

* New York Medical Journal, July 4, 1914.

† New Orleans Medical and Surgical Journal, August, 1911. Dental Cosmos, December, 1914.

H. K. MULFORD COMPANY, Philadelphia, U. S. A.

Manufacturing and Biological Chemists

New York Chicago St. Louis Kansas City Atlanta New Orleans Minneapolis San Francisco Seattle
Toronto, Canada London, England Mexico City Australia: JAMES BELL & Co., Melbourne

(Continued from page xxvi.)

professor of obstetrics at the Medical College of Virginia, died suddenly from pneumonia.

At Charlottesville, Dr. Dabney Minor Trice, of Moore's Brook Sanitarium, died suddenly January 17 from pneumonia.

At Martinsville, February 2, Dr. George E. Waller died at his home, aged 76 years.

WEST VIRGINIA.

At Charleston, February 15, an epidemic of some thirty cases of supposed grip in the county jail turned out to be smallpox of a mild type. The disease had prevailed for some six weeks before its true character was discovered. The building has been thoroughly fumigated and quarantined and all the prisoners who have not been infected were vaccinated.

At the statehouse it was discovered that a member of the legislature, Mr. W. W. Pilchard, of Brooke County, was suffering with the disease, whereupon the body went into executive session, and during the time the doors were closed all those not previously protected were vaccinated. Governor Hatfield, himself a physician, assisted in the work. Later all the attaches were vaccinated and the house was fumigated.

At Coleman, where a case of typhoid fever appeared, the city water was thoroughly examined, chemically and microscopically, and found perfectly pure for drinking and domestic uses.

Near Yorkville, March 1, several cases of scarlet fever developed, causing the closing of the public schools. Dr. J. N. Hunter, township health officer, has charge of the quarantine.

Leucocyte Extract, Squibb

Prepared from healthy leucocytes according to Hiss. Indicated in general acute systemic infections where bacteriological diagnosis is uncertain. Also used in conjunction with the specific serums and vaccines in the treatment of Erysipelas, Meningitis, Lobar Pneumonia, Septicemia, Pyemia and Furunculosis.

No contra-indications are known. For clinical reports address:

E. R. SQUIBB & SONS - - NEW YORK

SHERMAN'S BACTERINS

39 DIFFERENT PREPARATIONS
Put up in 1 c. c. glass sealed ampules
Package, 6 ampules, any variety, $1.50

Dr. Sherman's New Book
Devoted to the practical application of Bacterins. Cloth bound, 336 pages.

Price $1.50

The Bacterial Therapist
A 24-page monthly journal devoted exclusively to Vaccine Therapy. Free for one year upon request.

The Latest Development in Bulk Package

ANTISEPTIC PACKING
METAL RING
CORK
RUBBER

18 c.c. for $3.00
5 c.c. for $1.00

Patent applied for
G. H. SHERMAN, M. D.
Write for Literature. DETROIT, MICH.
U. S. License No. 30.

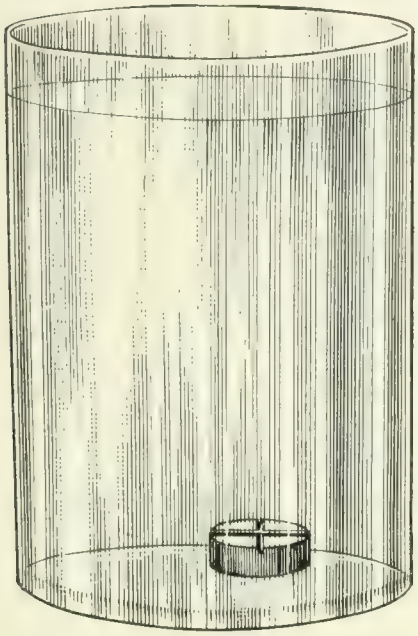
50% Better

Prevention Defense Indemnity

1 All claims or suits for alleged civil malpractice, error or mistake, for which our contract holder,
2 Or his estate is sued, whether the act or omission was his own
3 Or that of any other person (not necessarily an assistant or agent)
4 All such claims arising in suits involving the collection of professional fees
5 All claims arising in autopsies, inquests and in the prescribing and handling of drugs and medicines.
6 Defense through the court of last resort and until all legal remedies are exhausted
7 Without limit as to amount expended.
8 You have a voice in the selection of local counsel.
9 If we lose, we pay to amount specified, in addition to the unlimited defense.
10 The only contract containing all the above features and which is protection per se. *A sample upon request.*

The MEDICAL PROTECTIVE CO.
of **Fort Wayne, Indiana**
Professional Protection, Exclusively

PTOMAINE POISON



Where the patient is suffering agony from ptomaine poisoning as a result of tainted food, place

ONE TABLET OF

CHINOSOL

in one tumbler warm water.

Let the patient drink entire tumblerful.

It has many times been shown that this procedure counteracts the influence of the ptomaines and brings relief most promptly. Many patients now dead, might have been saved had physicians all known this valuable truth.

CHINOSOL CO.

PARMELE PHARMACAL CO.
SELLING AGT.,
54 SOUTH ST., N. Y

SAMPLES AND CLINICAL REPORTS ON REQUEST

"KELENE"

(PURE CHLORIDE OF ETHYL)

FRIES BROS., Manufacturers, 92 Reade St., New York

For Local Anaesthesia

ALSO AN ADJUVANT TO ETHER

In General Anaesthesia

Sole Distributors for the United States

MERCK & CO.—New York—Rahway—St. Louis

The

UNDERWOOD

FIRST in public opinion Proved through its adoption by the largest typewriter users.

HIGHEST mechanically, as evidenced by the award of the Elliott Cresson medal.

BEST because it is the machine upon which all International typewriter records have been won.

GREATEST because it has the largest typewriter factory and office building in the world.

UNDERWOOD

"The Machine You Will Eventually Buy"

Underwood Building - - NEW YORK

YOU PROGRESSIVE DOCTOR

Don't forget that your state meeting is near at hand—you owe it to yourself and the profession to attend your state meeting if possible. If you read Dr. Stuart McGuire's presidential address "The Profit and Loss Account of Modern Medicine" in our December issue you must have been impressed with your duty to medical organizations. Read our editorial "The Doctor and the Medical Society" in this issue.

Look down the list and note the place and date of your state meeting—*and be sure to go.*

Remember your first duty is to your local society, your second duty to your state society, your third duty to your "regional" society, the Southern Medical Association.

Keep in mind that the Southern Medical Association meets in Dallas, Texas, November 8-11, 1915. We have a few over four thousand members now, and there are over sixteen thousand more that ought to be members. Our slogan is "On to Dallas with 6,000 members." Won't you help make the slogan a reality?

State Meetings

Alabama—Birmingham, Apr. 20, 21, 22, 23.
Arkansas—Little Rock, May 3, 4, 5, 6.
Florida—DeLand, May 12, 13, 14.
Georgia—Macon, Apr. 21, 22, 23.
Louisiana—Lake Charles, Apr. 20, 21, 22.
Maryland—Baltimore, Apr. 27, 28, 29.
Mississippi—Hattiesburg, Apr. 11, 12, 13.
North Carolina—Greensboro, June 15, 16, 17.
Oklahoma—Bartlesville, May 11, 12, 13.
South Carolina—Greenwood, Apr. 20, 21, 22.
Tennessee—Nashville, April 13, 14, 15.
Texas—Fort Worth, May 4, 5. 6.
West Virginia—Huntington, May 12, 13, 14.

We exercise the most scrupulous care in the manufacture of our

Pharmaceuticals

A bottle sealed from our laboratory is an assurance of quality within that would be hard to express in words; a trial only could adequately express.

Van Antwerp's
THE BEST ONLY

PHARMACEUTICAL LABORATORY

VAN ANTWERP BLDG. MOBILE, ALA.

When a pure fruit juice is indicated–

When the patient wants "something that's good when I'm well"—

When the convalescent frets over the limited diet—

In short, when you see that Good Cheer is going to help your efforts to install Good Health, prescribe

Welch's

Grape Juice

The absolute purity of Welch's is one of the reasons for its high favor with the medical profession.

Welch's is just the pure, unadulterated, unsweetened juice of choicest selected Concord grapes. In the exact, sanitary Welch method this juice is pressed from the grapes when fresh from the vineyards, and is at once sterilized and hermetically sealed in glass. All the healthful properties of the grape are retained, and the delicious flavor and aroma of the fresh grape are unchanged.

We are glad to mail our literature to any physician who requests it.

The Welch Grape Juice Company, Westfield, N. Y.

Glycerophosphate in Solution Change Chemically

For protection against such instability we offer

Tablets Glycerophosphates Compound P-M Co.

Each tablet contains:

Sodium Glycerophosphate 1 gr.
Calcium Glycerophosphate 2 gr.
Iron Glycerophosphate 1-8 gr.
Strychnine Alkaloid 1-120 gr.

A TRUE LINE

PITMAN-MOORE COMPANY
INDIANAPOLIS

Mellin's Food is of much assistance in adjusting the diet to correct constipation of infants.

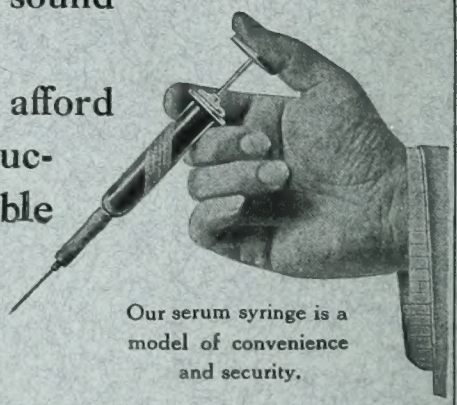
Details of the method of procedure to meet such conditions will be sent to physicians upon request.

Mellin's Food Company, Boston, Mass.

Antitoxin that you can administer with confidence.

Our diphtheria antitoxin has its origin in the blood of healthy, vigorous horses—animals that are carefully selected; that have been pronounced sound by expert veterinarians.

It is perfected in laboratories that afford unequalled facilities for serum production—laboratories in which it is possible to observe, at every step of the process, the vital principles of asepsis.



Our serum syringe is a model of convenience and security.

CONCENTRATED

Antidiphtheric Serum

(GLOBULIN)

is exhaustively tested—bacteriologically for purity, physiologically for activity. It is sterile. It is of accurately demonstrated antitoxic strength. Specify it on orders to your druggist.

Bio. 15— 500 antitoxic units.
Bio. 16—1000 antitoxic units.
Bio. 17—2000 antitoxic units.
Bio. 18—3000 antitoxic units.
Bio. 19— 4000 antitoxic units.
Bio. 20— 5000 antitoxic units.
Bio. 21— 7500 antitoxic units.
Bio. 22—10,000 antitoxic units.

Home Offices and Laboratories,
Detroit, Michigan.

Parke, Davis & Co.